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 Gerritsen, Mary E.  
 Goddard, Audrey  
 Godowski, Paul J.  
 Grimaldi, J. Christopher  
 Gurney, Austin L.  
 Kljavin, Ivar J.  
 Napier, Mary A.  
 Pan, James  
 Paoni, Nicholas F.  
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tgttcatctg tggccacaat aaagtttact tgtaaaattt tagaggccat 2600  
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<211> 251  
<212> PRT  
<213> Homo sapiens

<400> 6  
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35 40 45  
Phe Leu Tyr Arg Phe Gln Ile Trp Arg Pro Ile Thr Ala Thr Phe  
50 55 60  
Tyr Phe Pro Val Gly Pro Gly Thr Gly Phe Leu Tyr Leu Val Asn  
65 70 75  
Leu Tyr Phe Leu Tyr Gln Tyr Ser Thr Arg Leu Glu Thr Gly Ala  
80 85 90  
Phe Asp Gly Arg Pro Ala Asp Tyr Leu Phe Met Leu Leu Phe Asn  
95 100 105

Trp	Ile	Cys	Ile	Val	Ile	Thr	Gly	Leu	Ala	Met	Asp	Met	Gln	Leu
				110					115					120
Leu	Met	Ile	Pro	Leu	Ile	Met	Ser	Val	Leu	Tyr	Val	Trp	Ala	Gln
				125					130					135
Leu	Asn	Arg	Asp	Met	Ile	Val	Ser	Phe	Trp	Phe	Gly	Thr	Arg	Phe
				140					145					150
Lys	Ala	Cys	Tyr	Leu	Pro	Trp	Val	Ile	Leu	Gly	Phe	Asn	Tyr	Ile
				155					160					165
Ile	Gly	Gly	Ser	Val	Ile	Asn	Glu	Leu	Ile	Gly	Asn	Leu	Val	Gly
				170					175					180
His	Leu	Tyr	Phe	Phe	Leu	Met	Phe	Arg	Tyr	Pro	Met	Asp	Leu	Gly
				185					190					195
Gly	Arg	Asn	Phe	Leu	Ser	Thr	Pro	Gln	Phe	Leu	Tyr	Arg	Trp	Leu
				200					205					210
Pro	Ser	Arg	Arg	Gly	Gly	Val	Ser	Gly	Phe	Gly	Val	Pro	Pro	Ala
				215					220					225
Ser	Met	Arg	Arg	Ala	Ala	Asp	Gln	Asn	Gly	Gly	Gly	Gly	Arg	His
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Asn	Trp	Gly	Gln	Gly	Phe	Arg	Leu	Gly	Asp	Gln				
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 <211> 1373  
 <212> DNA  
 <213> Homo sapiens

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 gtccggcggt ctggcctagg gatcttcccc gttgcccctt tggggcgga 200  
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 aagatcaatt tcaagaagca tgcacttctc ctcttgcaaa gaccataca 550  
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 agtgaagctg caataatgaa taattcccaa ggggatgggtg aacattttgc 900  
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 ctttggaag aaaagtggaa aggtctgaaa cttcctccct cccacaaaaa 1000  
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 taaagaggag attgcttgca gagaaactca aagaagaagt tattaataag 1300  
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<210> 8

<211> 367

<212> PRT

<213> Homo sapiens

<400> 8

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Asp	Phe	Val	Glu	Gln	Lys	Cys	Glu	Val	Asn	Cys	Lys	Gly	Gly	His	35	40	45	
Val	Ile	Thr	Pro	Gly	Ser	Pro	Glu	Pro	Val	Ile	Leu	Val	Ala	Cys	50	55	60	
Val	Pro	Leu	Val	Phe	Asp	Asp	Glu	Glu	Glu	Ser	Lys	Leu	Thr	Tyr	65	70	75	
Thr	Glu	Ile	His	Gln	Glu	Tyr	Lys	Glu	Leu	Val	Glu	Lys	Leu	Leu	80	85	90	
Glu	Gly	Tyr	Leu	Lys	Glu	Ile	Gly	Ile	Asn	Glu	Asp	Gln	Phe	Gln	95	100	105	
Glu	Ala	Cys	Thr	Ser	Pro	Leu	Ala	Lys	Thr	His	Thr	Ser	Gln	Ala	110	115	120	
Ile	Leu	Gln	Pro	Val	Leu	Ala	Ala	Glu	Asp	Phe	Thr	Ile	Phe	Lys	125	130	135	
Ala	Met	Met	Val	Gln	Lys	Asn	Ile	Glu	Met	Gln	Leu	Gln	Ala	Ile	140	145	150	

Arg	Ile	Ile	Gln	Glu	Arg	Asn	Gly	Val	Leu	Pro	Asp	Cys	Leu	Thr	
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Asp	Gly	Ser	Asp	Val	Val	Ser	Asp	Leu	Glu	His	Glu	Glu	Met	Lys	
				170					175					180	
Ile	Leu	Arg	Glu	Val	Leu	Arg	Lys	Ser	Lys	Glu	Glu	Tyr	Asp	Gln	
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Glu	Glu	Glu	Arg	Lys	Arg	Lys	Lys	Gln	Leu	Ser	Glu	Ala	Lys	Thr	
				200					205					210	
Glu	Glu	Pro	Thr	Val	His	Ser	Ser	Glu	Ala	Ala	Ile	Met	Asn	Asn	
				215					220					225	
Ser	Gln	Gly	Asp	Gly	Glu	His	Phe	Ala	His	Pro	Pro	Ser	Glu	Val	
				230					235					240	
Lys	Met	His	Phe	Ala	Asn	Gln	Ser	Ile	Glu	Pro	Leu	Gly	Arg	Lys	
				245					250					255	
Val	Glu	Arg	Ser	Glu	Thr	Ser	Ser	Leu	Pro	Gln	Lys	Gly	Leu	Lys	
				260					265					270	
Ile	Pro	Gly	Leu	Glu	His	Ala	Ser	Ile	Glu	Gly	Pro	Ile	Ala	Asn	
				275					280					285	
Leu	Ser	Val	Leu	Gly	Thr	Glu	Glu	Leu	Arg	Gln	Arg	Glu	His	Tyr	
				290					295					300	
Leu	Lys	Gln	Lys	Arg	Asp	Lys	Leu	Met	Ser	Met	Arg	Lys	Asp	Met	
				305					310					315	
Arg	Thr	Lys	Gln	Ile	Gln	Asn	Met	Glu	Gln	Lys	Gly	Lys	Pro	Thr	
				320					325					330	
Gly	Glu	Val	Glu	Glu	Met	Thr	Glu	Lys	Pro	Glu	Met	Thr	Ala	Glu	
				335					340					345	
Glu	Lys	Gln	Thr	Leu	Leu	Lys	Arg	Arg	Leu	Leu	Ala	Glu	Lys	Leu	
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 <211> 418  
 <212> DNA  
 <213> Homo sapiens

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 tgcacttctc ctcttgcaaa gaccataca tcacaggcca tttttgcaac 200  
 ctgtgttggc agcagaagat ttactatct ttaaagcaat gatggtccag 250  
 aaaaacattg aaatgcagct gcaagccatt cgaataattc aagagagaaa 300

tggtgtatta cctgactgct taaccgatgg ctctgatgtg gtcagtgacc 350  
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 gaggaatatg accaggaa 418

<210> 10  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 10  
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<210> 11  
 <211> 23  
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<220>  
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<400> 11  
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<210> 12  
 <211> 40  
 <212> DNA  
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<220>  
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<210> 13  
 <211> 2886  
 <212> DNA  
 <213> Homo sapiens

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 tactacgggg ctagacagtt actgtctcag ctctaggatg tgcgttcttc 150  
 cactagaagc tcttctgagg gaggtaatta aaaaacagtg gaatggaaaa 200  
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 tcctgctagg tgccatattc attgctttta gctcaagtcg catcttacta 300  
 gtgaagtatt ctgccaatga agaaaacaag tatgattatc ttccaactac 350  
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 cattctgtgt tataaagaaa gatcatcaaa gtagaaattt gaaatatgct 450



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<210> 14

<211> 424

<212> PRT

<213> Homo sapiens

<400> 14

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Thr	Met	Tyr	Thr	Phe	Leu	Leu	Gly	Ala	Ile	Phe	Ile	Ala	Leu	Ser
				20					25					30
Ser	Ser	Arg	Ile	Leu	Leu	Val	Lys	Tyr	Ser	Ala	Asn	Glu	Glu	Asn
				35					40					45
Lys	Tyr	Asp	Tyr	Leu	Pro	Thr	Thr	Val	Asn	Val	Cys	Ser	Glu	Leu
				50					55					60
Val	Lys	Leu	Val	Phe	Cys	Val	Leu	Val	Ser	Phe	Cys	Val	Ile	Lys
				65					70					75
Lys	Asp	His	Gln	Ser	Arg	Asn	Leu	Lys	Tyr	Ala	Ser	Trp	Lys	Glu
				80					85					90
Phe	Ser	Asp	Phe	Met	Lys	Trp	Ser	Ile	Pro	Ala	Phe	Leu	Tyr	Phe
				95					100					105
Leu	Asp	Asn	Leu	Ile	Val	Phe	Tyr	Val	Leu	Ser	Tyr	Leu	Gln	Pro
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<212> DNA  
<213> Homo sapiens

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<210> 16  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 16  
ctatacctac tgtagcttct 20

<210> 17  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 17  
tcagagaatt ccttccagga 20

<210> 18  
<211> 40  
<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 18

acagtgtgtgt agtcatcctg taatatgctc cttgtcaaca 40

<210> 19

<211> 2142

<212> DNA

<213> Homo sapiens

<400> 19

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 gcggcctgcg gggcagagga gcatcccgtc taccaggtcc caagcggcgt 150  
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<210> 20  
<211> 458  
<212> PRT  
<213> Homo sapiens

<400> 20  
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Ala Ser Ala Asn Pro Pro Gly Pro Ala Trp Val Ala Leu Cys Pro  
35 40 45  
Gly Ser Ser Ser Pro Arg Pro Trp Pro Ser Leu Pro Thr Ser Ser  
50 55 60  
Ser Gly Ser Cys Pro Thr Ser His Thr Ala Arg Pro Ile Gly Thr  
65 70 75  
Cys Phe Ser Ile Ala Ser Leu Lys Gln Trp Ser Arg Val Ser Met  
80 85 90  
Phe Pro Thr Arg Leu Ser Pro Cys Ser Ser Ala Thr Glu Gln Thr  
95 100 105

Glu	Arg	Asp	Ser	Ala 110	Thr	Ala	Tyr	Arg	Met 115	Thr	Val	Glu	Val	Leu 120
Gly	Thr	Val	Leu	Gly 125	Thr	Ala	Ile	Gln	Gly 130	Gln	Ile	Val	Gly	Gln 135
Ala	Asp	Thr	Pro	Cys 140	Phe	Gln	Asp	Phe	Asn 145	Ser	Ser	Thr	Val	Ala 150
Ser	Gln	Ser	Ala	Asn 155	His	Thr	His	Gly	Thr 160	Thr	Ser	His	Arg	Glu 165
Thr	Gln	Lys	Ala	Tyr 170	Leu	Leu	Ala	Ala	Gly 175	Val	Ile	Val	Cys	Ile 180
Tyr	Ile	Ile	Cys	Ala 185	Val	Ile	Leu	Ile	Leu 190	Gly	Val	Arg	Glu	Gln 195
Arg	Glu	Pro	Tyr	Glu 200	Ala	Gln	Gln	Ser	Glu 205	Pro	Ile	Ala	Tyr	Phe 210
Arg	Gly	Leu	Arg	Leu 215	Val	Met	Ser	His	Gly 220	Pro	Tyr	Ile	Lys	Leu 225
Ile	Thr	Gly	Phe	Leu 230	Phe	Thr	Ser	Leu	Ala 235	Phe	Met	Leu	Val	Glu 240
Gly	Asn	Phe	Val	Leu 245	Phe	Cys	Thr	Tyr	Thr 250	Leu	Gly	Phe	Arg	Asn 255
Glu	Phe	Gln	Asn	Leu 260	Leu	Leu	Ala	Ile	Met 265	Leu	Ser	Ala	Thr	Leu 270
Thr	Ile	Pro	Ile	Trp 275	Gln	Trp	Phe	Leu	Thr 280	Arg	Phe	Gly	Lys	Lys 285
Thr	Ala	Val	Tyr	Val 290	Gly	Ile	Ser	Ser	Ala 295	Val	Pro	Phe	Leu	Ile 300
Leu	Val	Ala	Leu	Met 305	Glu	Ser	Asn	Leu	Ile 310	Ile	Thr	Tyr	Ala	Val 315
Ala	Val	Ala	Ala	Gly 320	Ile	Ser	Val	Ala	Ala 325	Ala	Phe	Leu	Leu	Pro 330
Trp	Ser	Met	Leu	Pro 335	Asp	Val	Ile	Asp	Asp 340	Phe	His	Leu	Lys	Gln 345
Pro	His	Phe	His	Gly 350	Thr	Glu	Pro	Ile	Phe 355	Phe	Ser	Phe	Tyr	Val 360
Phe	Phe	Thr	Lys	Phe 365	Ala	Ser	Gly	Val	Ser 370	Leu	Gly	Ile	Ser	Thr 375
Leu	Ser	Leu	Asp	Phe 380	Ala	Gly	Tyr	Gln	Thr 385	Arg	Gly	Cys	Ser	Gln 390
Pro	Glu	Arg	Val	Lys 395	Phe	Thr	Leu	Asn	Met 400	Leu	Val	Thr	Met	Ala 405
Pro	Ile	Val	Leu	Ile 410	Leu	Leu	Gly	Leu	Leu 415	Leu	Phe	Lys	Met	Tyr 420

Pro Ile Asp Glu Glu Arg Arg Arg Gln Asn Lys Lys Ala Leu Gln  
425 430 435

Ala Leu Arg Asp Glu Ala Ser Ser Ser Gly Cys Ser Glu Thr Asp  
440 445 450

Ser Thr Glu Leu Ala Ser Ile Leu  
455

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<211> 571  
<212> DNA  
<213> Homo sapiens

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accctatgaa gcccagcagt ctgagccaat cgcctacttc cggggcctac 150  
ggctgggtcat gagccacggc ccatacatca aacttattac tggcttcctc 200  
ttcacctcct tggctttcat gctggtggag gggaactttg tcttgttttg 250  
cacctacacc ttgggcttcc gcaatgaatt ccagaatcta ctccctggcca 300  
tcatgctctc ggccacttta accattccca tctggcagtg gttcttgacc 350  
cggtttggca agaagacagc tgtatatgtt gggatctcat cagcagtgcc 400  
attttctcatc ttggtggccc tcatggagag taacctcatc attacatatg 450  
cggtagctgt ggcagctggc atcagtggtg cagctgcctt ctactaccc 500  
tggtccatgc tgctgatgt cattgacgac ttccatctga agcagcccca 550  
cttccatgga accgagccca t 571

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<211> 1173  
<212> DNA  
<213> Homo sapiens

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aaaggtgcag gtatgagcag gtctgaagac taacattttg tgaagttgta 100  
aaacagaaaa cctgttagaa atgtggtggt ttcagcaagg cctcagtttc 150  
cttccttcag cccttgtaat ttggacatct gctgctttca tattttcata 200  
cattactgca gtaacactcc accatataga cccggcttta cttatatca 250  
gtgacactgg tacagtagct ccagaaaaat gcttatttgg ggcaatgcta 300  
aatattgcgg cagttttatg cattgctacc atttatgttc gttataagca 350  
agttcatgct ctgagtcctg aagagaacgt tatcatcaaa ttaaacaagg 400  
ctggccttgt acttgggaata ctgagttgtt taggactttc tattgtggca 450



aacttccaga aaacaaccct ttttgctgca catgtaagtg gagctgtgct 500  
 taccttttgg atgggctcat tatatatgtt tgttcagacc atcctttcct 550  
 accaaatgca gcccaaaatc catggcaaac aagtcttctg gatcagactg 600  
 ttgttggtta tctgggtgtg agtaagtgca cttagcatgc tgacttgctc 650  
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 ctactttcca gagatatattg atgaaaggat aaaatatttc tgtaatgatt 950  
 atgattctca gggattgggg aaaggttcac agaagttgct tattcttctc 1000  
 tgaaaatttc aaccacttaa tcaaggctga cagtaacact gatgaatgct 1050  
 gataatcagg aaacatgaaa gaagccattt gatagattat tctaaaggat 1100  
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 gaaaataaaag tcaaaaagact atg 1173

<210> 23  
 <211> 266  
 <212> PRT  
 <213> Homo sapiens

<400> 23  
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 Val Thr Leu His His Ile Asp Pro Ala Leu Pro Tyr Ile Ser Asp  
 35 40 45  
 Thr Gly Thr Val Ala Pro Glu Lys Cys Leu Phe Gly Ala Met Leu  
 50 55 60  
 Asn Ile Ala Ala Val Leu Cys Ile Ala Thr Ile Tyr Val Arg Tyr  
 65 70 75  
 Lys Gln Val His Ala Leu Ser Pro Glu Glu Asn Val Ile Ile Lys  
 80 85 90  
 Leu Asn Lys Ala Gly Leu Val Leu Gly Ile Leu Ser Cys Leu Gly  
 95 100 105  
 Leu Ser Ile Val Ala Asn Phe Gln Lys Thr Thr Leu Phe Ala Ala  
 110 115 120  
 His Val Ser Gly Ala Val Leu Thr Phe Gly Met Gly Ser Leu Tyr  
 125 130 135

Met	Phe	Val	Gln	Thr	Ile	Leu	Ser	Tyr	Gln	Met	Gln	Pro	Lys	Ile	
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His	Gly	Lys	Gln	Val	Phe	Trp	Ile	Arg	Leu	Leu	Leu	Val	Ile	Trp	
				155					160					165	
Cys	Gly	Val	Ser	Ala	Leu	Ser	Met	Leu	Thr	Cys	Ser	Ser	Val	Leu	
				170					175					180	
His	Ser	Gly	Asn	Phe	Gly	Thr	Asp	Leu	Glu	Gln	Lys	Leu	His	Trp	
				185					190					195	
Asn	Pro	Glu	Asp	Lys	Gly	Tyr	Val	Leu	His	Met	Ile	Thr	Thr	Ala	
				200					205					210	
Ala	Glu	Trp	Ser	Met	Ser	Phe	Ser	Phe	Phe	Gly	Phe	Phe	Leu	Thr	
				215					220					225	
Tyr	Ile	Arg	Asp	Phe	Gln	Lys	Ile	Ser	Leu	Arg	Val	Glu	Ala	Asn	
				230					235					240	
Leu	His	Gly	Leu	Thr	Leu	Tyr	Asp	Thr	Ala	Pro	Cys	Pro	Ile	Asn	
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Asn	Glu	Arg	Thr	Arg	Leu	Leu	Ser	Arg	Asp	Ile					
				260					265						

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 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 14, 484  
 <223> unknown base

<400> 24  
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 gagcggagat cctcaaacgg cctagtgcct cgcgcttccg gagaaaatca 150  
 gcgggtctaataaattcctct ggtttgttga agcagttacc aagaatcttc 200  
 aaccctttcc cacaaaagct aattgagtag acgttctctg tgagtacacg 250  
 ttcctgttga ttacaaaag gtgcaggtat gagcaggtct gaagactaac 300  
 attttgtgaa gttgtaaaac agaaaacctg ttagaaatgt ggtggtttca 350  
 gcaaggcctc agtttccttc cttcagccct tgtaatttgg acatctgctg 400  
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 gctttacctt atatcagtga cactggtaca gtanc 485

<210> 25  
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 <212> DNA  
 <213> Artificial Sequence

0393163.1401  
"TCTT" 597660

<220>  
<223> Synthetic oligonucleotide probe

<400> 25  
acctgttaga aatgtggtgg ttacagcaag gcctcagttt 40

<210> 26  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 26  
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<210> 27  
<211> 1399  
<212> DNA  
<213> Homo sapiens

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ccttctgggtc ttccgcccgt gcaccttcgc cttgtacttg ctgtcgacgc 150  
gactgccccg cgggcccggaga ctgggctcca ccgaggaggc tggaggcagg 200  
tcgctgtggt tccccctcca cctggcagag ctgcggggagc tctctgaggt 250  
ccttcgagag taccggaagg agcaccaggc ctacgtgttc ctgctcttct 300  
gcggcgcccta cctctacaaa cagggtcttg ccatccccgg ctccagcttc 350  
ctgaatgttt tagctgggtgc cttgtttggg ccatggctgg ggcttctgct 400  
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cggccccaat tctgaacatt cccatcgtgc agttcttctt ctcaattctt 650  
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tatacacagt agaaaagaca catgatctgg attttctgtt tgccacatcc 900  
ctggactcag ttgcttattt gtgtaatgga tgtggtcctc taaagcccct 950  
cattgttttt gattgccttc tataggtgat gtggacactg tgcataaatg 1000



Thr Ser Leu Asp Ala Leu Phe Ser Trp Asp Thr Val Phe Lys Leu  
 215 220 225

Leu Ala Ile Ala Met Val Ala Leu Ile Pro Gly Thr Leu Ile Lys  
 230 235 240

Lys Phe Ser Gln Lys His Leu Gln Leu Asn Glu Thr Ser Thr Ala  
 245 250 255

Asn His Ile His Ser Arg Lys Asp Thr  
 260

<210> 29  
 <211> 1292  
 <212> DNA  
 <213> Homo sapiens

<400> 29  
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 ggtttccgaa ctgccagctc agaataggaa aataacttgg gattttatat 150  
 tggaagacat ggatcttgct gccaacgaga tcagcattta tgacaaactt 200  
 tcagagactg ttgatttggt gagacagacc ggccatcagt gtggcatgtc 250  
 agagaaggca attgaaaaat ttatcagaca gctgctggaa aagaatgaac 300  
 ctgagagacc cccccgcag tatcctctcc ttatagttgt gtataagggt 350  
 ctgcgaacct tgggattaat cttgctcact gcctactttg tgattcaacc 400  
 tttcagccca ttagcacctg agccagtgtt ttctggagct cacacctggc 450  
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 tacatgtcag aaaataaggg agttcctctg catgggggtg atgaagacag 550  
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 agtcagagcc cattcctgcc aactgcactg gctgtgcca gaaacacctg 650  
 aaggtgatgc tcctggaaga cgccccagg aaatttgaga ggctccatcc 700  
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 gatatcggt atgtcgacac caccactgg aaggtctacg ttatagccag 1150

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<210> 30  
 <211> 347  
 <212> PRT  
 <213> Homo sapiens

<400> 30  
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 20 25 30  
 Ser Glu Lys Ala Ile Glu Lys Phe Ile Arg Gln Leu Leu Glu Lys  
 35 40 45  
 Asn Glu Pro Gln Arg Pro Pro Pro Gln Tyr Pro Leu Leu Ile Val  
 50 55 60  
 Val Tyr Lys Val Leu Ala Thr Leu Gly Leu Ile Leu Leu Thr Ala  
 65 70 75  
 Tyr Phe Val Ile Gln Pro Phe Ser Pro Leu Ala Pro Glu Pro Val  
 80 85 90  
 Leu Ser Gly Ala His Thr Trp Arg Ser Leu Ile His His Ile Arg  
 95 100 105  
 Leu Met Ser Leu Pro Ile Ala Lys Lys Tyr Met Ser Glu Asn Lys  
 110 115 120  
 Gly Val Pro Leu His Gly Gly Asp Glu Asp Arg Pro Phe Pro Asp  
 125 130 135  
 Phe Asp Pro Trp Trp Thr Asn Asp Cys Glu Gln Asn Glu Ser Glu  
 140 145 150  
 Pro Ile Pro Ala Asn Cys Thr Gly Cys Ala Gln Lys His Leu Lys  
 155 160 165  
 Val Met Leu Leu Glu Asp Ala Pro Arg Lys Phe Glu Arg Leu His  
 170 175 180  
 Pro Leu Val Ile Lys Thr Gly Lys Pro Leu Leu Glu Glu Glu Ile  
 185 190 195  
 Gln His Phe Leu Cys Gln Tyr Pro Glu Ala Thr Glu Gly Phe Ser  
 200 205 210  
 Glu Gly Phe Phe Ala Lys Trp Trp Arg Cys Phe Pro Glu Arg Trp  
 215 220 225  
 Phe Pro Phe Pro Tyr Pro Trp Arg Arg Pro Leu Asn Arg Ser Gln  
 230 235 240  
 Met Leu Arg Glu Leu Phe Pro Val Phe Thr His Leu Pro Phe Pro  
 245 250 255

Lys Asp Ala Ser Leu Asn Lys Cys Ser Phe Leu His Pro Glu Pro  
 260 265 270  
 Val Val Gly Ser Lys Met His Lys Met Pro Asp Leu Phe Ile Ile  
 275 280 285  
 Gly Ser Gly Glu Ala Met Leu Gln Leu Ile Pro Pro Phe Gln Cys  
 290 295 300  
 Arg Arg His Cys Gln Ser Val Ala Met Pro Ile Glu Pro Gly Asp  
 305 310 315  
 Ile Gly Tyr Val Asp Thr Thr His Trp Lys Val Tyr Val Ile Ala  
 320 325 330  
 Arg Gly Val Gln Pro Leu Val Ile Cys Asp Gly Thr Ala Phe Ser  
 335 340 345  
 Glu Leu

<210> 31  
 <211> 478  
 <212> DNA  
 <213> Homo sapiens

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 aaaatttatc agacagctgc tggaaaagaa tgaacctcag agaccccccc 350  
 cgcagtatcc tctccttata gttgtgtata aggttctcgc aaccttgga 400  
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<210> 32  
 <211> 3531  
 <212> DNA  
 <213> Homo sapiens

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 gcagagcgct gctcctggct ggtgccactg gtgcgcacgc tgctagaccg 150  
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cagccgccga ggaggccctc aatgtcttct attactgcac ctatgagggg 2050  
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gtggccatcc gcagcgtggc cgtgaccaag gagcgcagcc acgtgctggt 3150  
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<211> 1003

<212> PRT

<213> Homo sapiens

<400> 33

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				20					25					30	
Gly	Gln	Arg	Arg	Gln	Trp	Glu	Arg	Ala	Gln	Ser	Arg	Arg	Ala	Phe	
				35					40					45	
Gln	Glu	Leu	Val	Leu	Glu	Pro	Ala	Gln	Arg	Arg	Ala	Arg	Leu	Glu	
				50					55					60	
Gly	Leu	Arg	Tyr	Thr	Ala	Val	Leu	Lys	Gln	Gln	Ala	Thr	Gln	His	
				65					70					75	
Ser	Met	Ala	Leu	Leu	His	Trp	Gly	Ala	Leu	Trp	Arg	Gln	Leu	Ala	
				80					85					90	
Ser	Pro	Cys	Gly	Ala	Trp	Ala	Leu	Arg	Asp	Thr	Pro	Ile	Pro	Arg	
				95					100					105	
Trp	Lys	Leu	Ser	Ser	Ala	Glu	Thr	Tyr	Ser	Arg	Met	Arg	Leu	Lys	
				110					115					120	
Leu	Val	Pro	Asn	His	His	Phe	Asp	Pro	His	Leu	Glu	Ala	Ser	Ala	
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Leu	Arg	Asp	Asn	Leu	Gly	Glu	Val	Pro	Leu	Thr	Pro	Thr	Glu	Glu	
				140					145					150	
Ala	Ser	Leu	Pro	Leu	Ala	Val	Thr	Lys	Glu	Ala	Lys	Val	Ser	Thr	
				155					160					165	
Pro	Pro	Glu	Leu	Leu	Gln	Glu	Asp	Gln	Leu	Gly	Glu	Asp	Glu	Leu	
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Ala	Glu	Leu	Glu	Thr	Pro	Met	Glu	Ala	Ala	Glu	Leu	Asp	Glu	Gln	
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Arg	Glu	Lys	Leu	Val	Leu	Ser	Ala	Glu	Cys	Gln	Leu	Val	Thr	Val	
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Val	Ala	Val	Val	Pro	Gly	Leu	Leu	Glu	Val	Thr	Thr	Gln	Asn	Val	
				215					220					225	
Tyr	Phe	Tyr	Asp	Gly	Ser	Thr	Glu	Arg	Val	Glu	Thr	Glu	Glu	Gly	
				230					235					240	
Ile	Gly	Tyr	Asp	Phe	Arg	Arg	Pro	Leu	Ala	Gln	Leu	Arg	Glu	Val	
				245					250					255	
His	Leu	Arg	Arg	Phe	Asn	Leu	Arg	Arg	Ser	Ala	Leu	Glu	Leu	Phe	
				260					265					270	

Phe	Ile	Asp	Gln	Ala	Asn	Tyr	Phe	Leu	Asn	Phe	Pro	Cys	Lys	Val	
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Gly	Thr	Thr	Pro	Val	Ser	Ser	Pro	Ser	Gln	Thr	Pro	Arg	Pro	Gln	
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Pro	Gly	Pro	Ile	Pro	Pro	His	Thr	Gln	Val	Arg	Asn	Gln	Val	Tyr	
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Ser	Trp	Leu	Leu	Arg	Leu	Arg	Pro	Pro	Ser	Gln	Gly	Tyr	Leu	Ser	
				320					325					330	
Ser	Arg	Ser	Pro	Gln	Glu	Met	Leu	Arg	Ala	Ser	Gly	Leu	Thr	Gln	
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Lys	Trp	Val	Gln	Arg	Glu	Ile	Ser	Asn	Phe	Glu	Tyr	Leu	Met	Gln	
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Leu	Asn	Thr	Ile	Ala	Gly	Arg	Thr	Tyr	Asn	Asp	Leu	Ser	Gln	Tyr	
				365					370					375	
Pro	Val	Phe	Pro	Trp	Val	Leu	Gln	Asp	Tyr	Val	Ser	Pro	Thr	Leu	
				380					385					390	
Asp	Leu	Ser	Asn	Pro	Ala	Val	Phe	Arg	Asp	Leu	Ser	Lys	Pro	Ile	
				395					400					405	
Gly	Val	Val	Asn	Pro	Lys	His	Ala	Gln	Leu	Val	Arg	Glu	Lys	Tyr	
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Glu	Ser	Phe	Glu	Asp	Pro	Ala	Gly	Thr	Ile	Asp	Lys	Phe	His	Tyr	
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Gly	Thr	His	Tyr	Ser	Asn	Ala	Ala	Gly	Val	Met	His	Tyr	Leu	Ile	
				440					445					450	
Arg	Val	Glu	Pro	Phe	Thr	Ser	Leu	His	Val	Gln	Leu	Gln	Ser	Gly	
				455					460					465	
Arg	Phe	Asp	Cys	Ser	Asp	Arg	Gln	Phe	His	Ser	Val	Ala	Ala	Ala	
				470					475					480	
Trp	Gln	Ala	Arg	Leu	Glu	Ser	Pro	Ala	Asp	Val	Lys	Glu	Leu	Ile	
				485					490					495	
Pro	Glu	Phe	Phe	Tyr	Phe	Pro	Asp	Phe	Leu	Glu	Asn	Gln	Asn	Gly	
				500					505					510	
Phe	Asp	Leu	Gly	Cys	Leu	Gln	Leu	Thr	Asn	Glu	Lys	Val	Gly	Asp	
				515					520					525	
Val	Val	Leu	Pro	Pro	Trp	Ala	Ser	Ser	Pro	Glu	Asp	Phe	Ile	Gln	
				530					535					540	
Gln	His	Arg	Gln	Ala	Leu	Glu	Ser	Glu	Tyr	Val	Ser	Ala	His	Leu	
				545					550					555	
His	Glu	Trp	Ile	Asp	Leu	Ile	Phe	Gly	Tyr	Lys	Gln	Arg	Gly	Pro	
				560					565					570	
Ala	Ala	Glu	Glu	Ala	Leu	Asn	Val	Phe	Tyr	Tyr	Cys	Thr	Tyr	Glu	
				575					580					585	

Gly	Ala	Val	Asp	Leu	Asp	His	Val	Thr	Asp	Glu	Arg	Glu	Arg	Lys	
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Ala	Leu	Glu	Gly	Ile	Ile	Ser	Asn	Phe	Gly	Gln	Thr	Pro	Cys	Gln	
				605					610					615	
Leu	Leu	Lys	Glu	Pro	His	Pro	Thr	Arg	Leu	Ser	Ala	Glu	Glu	Ala	
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Ala	His	Arg	Leu	Ala	Arg	Leu	Asp	Thr	Asn	Ser	Pro	Ser	Ile	Phe	
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Gln	His	Leu	Asp	Glu	Leu	Lys	Ala	Phe	Phe	Ala	Glu	Val	Thr	Val	
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Ser	Ala	Ser	Gly	Leu	Leu	Gly	Thr	His	Ser	Trp	Leu	Pro	Tyr	Asp	
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Arg	Asn	Ile	Ser	Asn	Tyr	Phe	Ser	Phe	Ser	Lys	Asp	Pro	Thr	Met	
				680					685					690	
Gly	Ser	His	Lys	Thr	Gln	Arg	Leu	Leu	Ser	Gly	Pro	Trp	Val	Pro	
				695					700					705	
Gly	Ser	Gly	Val	Ser	Gly	Gln	Ala	Leu	Ala	Val	Ala	Pro	Asp	Gly	
				710					715					720	
Lys	Leu	Leu	Phe	Ser	Gly	Gly	His	Trp	Asp	Gly	Ser	Leu	Arg	Val	
				725					730					735	
Thr	Ala	Leu	Pro	Arg	Gly	Lys	Leu	Leu	Ser	Gln	Leu	Ser	Cys	His	
				740					745					750	
Leu	Asp	Val	Val	Thr	Cys	Leu	Ala	Leu	Asp	Thr	Cys	Gly	Ile	Tyr	
				755					760					765	
Leu	Ile	Ser	Gly	Ser	Arg	Asp	Thr	Thr	Cys	Met	Val	Trp	Arg	Leu	
				770					775					780	
Leu	His	Gln	Gly	Gly	Leu	Ser	Val	Gly	Leu	Ala	Pro	Lys	Pro	Val	
				785					790					795	
Gln	Val	Leu	Tyr	Gly	His	Gly	Ala	Ala	Val	Ser	Cys	Val	Ala	Ile	
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Ser	Thr	Glu	Leu	Asp	Met	Ala	Val	Ser	Gly	Ser	Glu	Asp	Gly	Thr	
				815					820					825	
Val	Ile	Ile	His	Thr	Val	Arg	Arg	Gly	Gln	Phe	Val	Ala	Ala	Leu	
				830					835					840	
Arg	Pro	Leu	Gly	Ala	Thr	Phe	Pro	Gly	Pro	Ile	Phe	His	Leu	Ala	
				845					850					855	
Leu	Gly	Ser	Glu	Gly	Gln	Ile	Val	Val	Gln	Ser	Ser	Ala	Trp	Glu	
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Arg	Pro	Gly	Ala	Gln	Val	Thr	Tyr	Ser	Leu	His	Leu	Tyr	Ser	Val	
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Asn	Gly	Lys	Leu	Arg	Ala	Ser	Leu	Pro	Leu	Ala	Glu	Gln	Pro	Thr	
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Ala	Leu	Thr	Val	Thr	Glu	Asp	Phe	Val	Leu	Leu	Gly	Thr	Ala	Gln	
				905					910					915	
Cys	Ala	Leu	His	Ile	Leu	Gln	Leu	Asn	Thr	Leu	Leu	Pro	Ala	Ala	
				920					925					930	
Pro	Pro	Leu	Pro	Met	Lys	Val	Ala	Ile	Arg	Ser	Val	Ala	Val	Thr	
				935					940					945	
Lys	Glu	Arg	Ser	His	Val	Leu	Val	Gly	Leu	Glu	Asp	Gly	Lys	Leu	
				950					955					960	
Ile	Val	Val	Val	Ala	Gly	Gln	Pro	Ser	Glu	Val	Arg	Ser	Ser	Gln	
				965					970					975	
Phe	Ala	Arg	Lys	Leu	Trp	Arg	Ser	Ser	Arg	Arg	Ile	Ser	Gln	Val	
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 <212> DNA  
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 tgtgctgtctt ccagggctac tcatccaaag gcctaatacca acgttctgtc 150  
 ttcaatctgc aaatctatgg ggtcctgggg ctcttctgga cccttaactg 200  
 ggtactggcc ctgggccaat gcgtcctcgc tggagccttt gcctccttct 250  
 actgggcctt ccacaagccc caggacatcc ctaccttccc cttaatctct 300  
 gccttcatcc gcacactccg ttaccacact ggtcattgg catttgagc 350  
 cctcatcctg acccttgtgc agatagcccc ggtcatcttg gagtatattg 400  
 accacaagct cagaggagtg cagaaccctg tagcccgctg catcatgtgc 450  
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 cagccaaaaa tgcgttcatg ctactcatgc gaaacattgt cagggtggtc 600  
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 cggggctggg taaagacttt aagagccccc acctcaacta ttactggctg 750  
 cccatcatga cctccatcct gggggcctat gtcatcgcca gcggcttctt 800  
 cagcgttttc ggcatgtgtg tggacacgct cttcctctgc ttcctggaag 850  
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 cccaccgtcc agccatccaa cctcacttcg ccttacaggt ctccattttg 1050  
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 tttagccgaga gtggtggcat gcacctgtca tcccagctac tcgggagggt 1250  
 gaggcaggag aatcgcttga accogggagg cagaggttgc agtgagccga 1300  
 gatcgcgcca ctgcactcca acctgggtga cagactctgt ctccaaaaca 1350  
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<210> 36  
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 <212> PRT  
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 35 40 45  
 Ile Gln Arg Ser Val Phe Asn Leu Gln Ile Tyr Gly Val Leu Gly  
 50 55 60  
 Leu Phe Trp Thr Leu Asn Trp Val Leu Ala Leu Gly Gln Cys Val  
 65 70 75  
 Leu Ala Gly Ala Phe Ala Ser Phe Tyr Trp Ala Phe His Lys Pro  
 80 85 90  
 Gln Asp Ile Pro Thr Phe Pro Leu Ile Ser Ala Phe Ile Arg Thr  
 95 100 105  
 Leu Arg Tyr His Thr Gly Ser Leu Ala Phe Gly Ala Leu Ile Leu  
 110 115 120  
 Thr Leu Val Gln Ile Ala Arg Val Ile Leu Glu Tyr Ile Asp His  
 125 130 135

Lys	Leu	Arg	Gly	Val	Gln	Asn	Pro	Val	Ala	Arg	Cys	Ile	Met	Cys	
				140					145					150	
Cys	Phe	Lys	Cys	Cys	Leu	Trp	Cys	Leu	Glu	Lys	Phe	Ile	Lys	Phe	
				155					160					165	
Leu	Asn	Arg	Asn	Ala	Tyr	Ile	Met	Ile	Ala	Ile	Tyr	Gly	Lys	Asn	
				170					175					180	
Phe	Cys	Val	Ser	Ala	Lys	Asn	Ala	Phe	Met	Leu	Leu	Met	Arg	Asn	
				185					190					195	
Ile	Val	Arg	Val	Val	Val	Leu	Asp	Lys	Val	Thr	Asp	Leu	Leu	Leu	
				200					205					210	
Phe	Phe	Gly	Lys	Leu	Leu	Val	Val	Gly	Gly	Val	Gly	Val	Leu	Ser	
				215					220					225	
Phe	Phe	Phe	Phe	Ser	Gly	Arg	Ile	Pro	Gly	Leu	Gly	Lys	Asp	Phe	
				230					235					240	
Lys	Ser	Pro	His	Leu	Asn	Tyr	Tyr	Trp	Leu	Pro	Ile	Met	Thr	Ser	
				245					250					255	
Ile	Leu	Gly	Ala	Tyr	Val	Ile	Ala	Ser	Gly	Phe	Phe	Ser	Val	Phe	
				260					265					270	
Gly	Met	Cys	Val	Asp	Thr	Leu	Phe	Leu	Cys	Phe	Leu	Glu	Asp	Leu	
				275					280					285	
Glu	Arg	Asn	Asn	Gly	Ser	Leu	Asp	Arg	Pro	Tyr	Tyr	Met	Ser	Lys	
				290					295					300	
Ser	Leu	Leu	Lys	Ile	Leu	Gly	Lys	Lys	Asn	Glu	Ala	Pro	Pro	Asp	
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				320											

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<210> 38  
 <211> 24  
 <212> DNA  
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<220>  
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<400> 38  
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<210> 39  
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<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

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<210> 40  
<211> 1365  
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gctctgtgtg cgtgcaagat ccttcaggcc ttgttccagt gtgaccacgt 200  
gcaatatacg ctggttccag tttctgggtg gcaagaactt gaaactgcat 250  
ttcttgagca taaagaacag tttcattatt ttattctcat aaactgtgga 300  
gctaattgtag acctattgga tattcttcaa cctgatgaag aactatatt 350  
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ataccagat caaattactc attaaacaag atgatgacct tgaagttccc 450  
gcctatgaag acatcttcag ggatgaagag gaggatgaag agcattcagg 500  
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aggagatagt ggagcaaacc atgcggagga ggcagcggcg agagtgggag 600  
gcccggagaa gagacatcct ctttgactac gagcagtatg aatatcatgg 650  
gacatcgtca gccatggtga tgtttgagct ggcttgatg ctgtccaagg 700  
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gtgcaagaca agatcactca aatgaaatac gtgactgatg ttggtgtcct 800  
gcagcgcac gtttcccgcc acaaccaccg gaacgaggat gaggagaaca 850  
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gcattcattt tgggttcaag cacaagtttc tggccagcga cgtggtcttt 1200



Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The *Agrobacterium* strains were grown in YEA medium at 28°C for 24 h. The cell concentration of the strains was adjusted to 1.0 × 10<sup>8</sup> cells/ml. The cell suspension was mixed with the plant tissue and the transformation efficiency was determined. The results are the mean of three independent experiments. Error bars represent standard deviation.

<400>	41													
Met	Phe	Val	Ser	Asp	Phe	Arg	Lys	Glu	Phe	Tyr	Glu	Val	Val	Gln
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Ser	Gln	Arg	Val	Leu	Leu	Phe	Val	Ala	Ser	Asp	Val	Asp	Ala	Leu
				20					25					30
Cys	Ala	Cys	Lys	Ile	Leu	Gln	Ala	Leu	Phe	Gln	Cys	Asp	His	Val
				35					40					45
Gln	Tyr	Thr	Leu	Val	Pro	Val	Ser	Gly	Trp	Gln	Glu	Leu	Glu	Thr
				50					55					60
Ala	Phe	Leu	Glu	His	Lys	Glu	Gln	Phe	His	Tyr	Phe	Ile	Leu	Ile
				65					70					75
Asn	Cys	Gly	Ala	Asn	Val	Asp	Leu	Leu	Asp	Ile	Leu	Gln	Pro	Asp
				80					85					90
Glu	Asp	Thr	Ile	Phe	Phe	Val	Cys	Asp	Ser	His	Arg	Pro	Val	Asn
				95					100					105
Val	Val	Asn	Val	Tyr	Asn	Asp	Thr	Gln	Ile	Lys	Leu	Leu	Ile	Lys
				110					115					120
Gln	Asp	Asp	Asp	Leu	Glu	Val	Pro	Ala	Tyr	Glu	Asp	Ile	Phe	Arg
				125					130					135
Asp	Glu	Glu	Glu	Asp	Glu	Glu	His	Ser	Gly	Asn	Asp	Ser	Asp	Gly
				140					145					150
Ser	Glu	Pro	Ser	Glu	Lys	Arg	Thr	Arg	Leu	Glu	Glu	Glu	Ile	Val
				155					160					165
Glu	Gln	Thr	Met	Arg	Arg	Arg	Gln	Arg	Arg	Glu	Trp	Glu	Ala	Arg
				170					175					180
Arg	Arg	Asp	Ile	Leu	Phe	Asp	Tyr	Glu	Gln	Tyr	Glu	Tyr	His	Gly
				185					190					195
Thr	Ser	Ser	Ala	Met	Val	Met	Phe	Glu	Leu	Ala	Trp	Met	Leu	Ser
				200					205					210
Lys	Asp	Leu	Asn	Asp	Met	Leu	Trp	Trp	Ala	Ile	Val	Gly	Leu	Thr
				215					220					225
Asp	Gln	Trp	Val	Gln	Asp	Lys	Ile	Thr	Gln	Met	Lys	Tyr	Val	Thr
				230					235					240
Asp	Val	Gly	Val	Leu	Gln	Arg	His	Val	Ser	Arg	His	Asn	His	Arg

245					250					255				
Asn	Glu	Asp	Glu	Glu	Asn	Thr	Leu	Ser	Val	Asp	Cys	Thr	Arg	Ile
			260						265					270
Ser	Phe	Glu	Tyr	Asp	Leu	Arg	Leu	Val	Leu	Tyr	Gln	His	Trp	Ser
			275						280					285
Leu	His	Asp	Ser	Leu	Cys	Asn	Thr	Ser	Tyr	Thr	Ala	Ala	Arg	Phe
			290						295					300
Lys	Leu	Trp	Ser	Val	His	Gly	Gln	Lys	Arg	Leu	Gln	Glu	Phe	Leu
			305						310					315
Ala	Asp	Met	Gly	Leu	Pro	Leu	Lys	Gln	Val	Lys	Gln	Lys	Phe	Gln
			320						325					330
Ala	Met	Asp	Ile	Ser	Leu	Lys	Glu	Asn	Leu	Arg	Glu	Met	Ile	Glu
			335						340					345
Glu	Ser	Ala	Asn	Lys	Phe	Gly	Met	Lys	Asp	Met	Arg	Val	Gln	Thr
			350						355					360
Phe	Ser	Ile	His	Phe	Gly	Phe	Lys	His	Lys	Phe	Leu	Ala	Ser	Asp
			365						370					375
Val	Val	Phe	Ala	Thr	Met	Ser	Leu	Met	Glu	Ser	Pro	Glu	Lys	Asp
			380						385					390
Gly	Ser	Gly	Thr	Asp	His	Phe	Ile	Gln	Ala	Leu	Asp	Ser	Leu	Ser
			395						400					405
Arg	Ser	Asn	Leu	Asp	Lys	Leu	Tyr	His	Gly	Leu	Glu	Leu	Ala	Lys
			410						415					420
Lys	Gln	Leu	Arg	Ala	Thr	Gln	Gln	Thr	Ile	Ala	Ser	Cys	Leu	Cys
			425						430					435
Thr	Asn	Leu	Val	Ile	Ser	Gln	Gly	Pro	Phe	Leu	Tyr	Cys	Ser	Leu
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Met	Glu	Gly	Thr	Pro	Asp	Val	Met	Leu	Phe	Ser	Arg	Pro	Ala	Ser
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Thr	Lys	Asn	Arg	Arg	Cys	Lys	Leu	Leu	Pro	Leu	Val	Met	Ala	Ala
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Pro	Glu	Thr	Asp	Ser	Ser	Asp	Arg	Lys	Asn	Phe	Phe	Gly	Arg	Ala
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Phe	Glu	Lys	Ala	Ala	Glu	Ser	Thr	Ser	Ser	Arg	Met	Leu	His	Asn
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His	Phe	Asp	Leu	Ser	Val	Ile	Glu	Leu	Lys	Ala	Glu	Asp	Arg	Ser
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Lys	Phe	Leu	Asp	Ala	Leu	Ile	Ser	Leu	Leu	Ser				

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<222> 44, 118, 172, 183  
<223> unknown base
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<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe

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<211> 26
<212> DNA
<213> Artificial Sequence
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<220>  
<223> Synthetic oligonucleotide probe

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<211> 50
<212> DNA
<213> Artificial Sequence
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<220>  
<223> Synthetic oligonucleotide probe

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<210> 46

<211> 3089  
 <212> DNA  
 <213> Homo sapiens

<400> 46

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<211> 259

<212> PRT

<213> Homo sapiens

<220>

<221> Signal Peptide

<222> 1-20

<223> Signal Peptide

<220>

<221> N-glycosylation Site

<222> 72-75

<223> N-glycosylation Site

<220>

<221> Clq Domain Proteins

<222> 144-178, 78-111, 84-117

<223> Clq Domain Proteins

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Pro	Leu	Asp	Pro	Ala	His	Val	Ser	Ser	Ala	Ser	Ser	Ser	Gly	Arg	
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Ala	Pro	Leu	Arg	Gly	Ile	Tyr	Phe	Phe	Ser	Leu	Asn	Val	His	Ser	
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 <212> PRT  
 <213> Homo sapiens

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 35 40 45  
 Val Pro Arg Asp Val Pro Pro Asp Thr Val Gly Leu Tyr Val Phe  
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 Glu Asn Gly Ile Thr Met Leu Asp Ala Gly Ser Phe Ala Gly Leu  
 65 70 75  
 Pro Gly Leu Gln Leu Leu Asp Leu Ser Gln Asn Gln Ile Ala Ser  
 80 85 90  
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Arg Gly Leu Arg	Arg Leu Glu Arg Leu	Tyr Leu Gly Lys Asn	Arg
	125	130	135
Ile Arg His Ile	Gln Pro Gly Ala Phe	Asp Thr Leu Asp Arg	Leu
	140	145	150
Leu Glu Leu Lys	Leu Gln Asp Asn Glu	Leu Arg Ala Leu Pro	Pro
	155	160	165
Leu Arg Leu Pro	Arg Leu Leu Leu Leu	Asp Leu Ser His Asn	Ser
	170	175	180
Leu Leu Ala Leu	Glu Pro Gly Ile Leu	Asp Thr Ala Asn Val	Glu
	185	190	195
Ala Leu Arg Leu	Ala Gly Leu Gly Leu	Gln Gln Leu Asp Glu	Gly
	200	205	210
Leu Phe Ser Arg	Leu Arg Asn Leu His	Asp Leu Asp Val Ser	Asp
	215	220	225
Asn Gln Leu Glu	Arg Val Pro Pro Val	Ile Arg Gly Leu Arg	Gly
	230	235	240
Leu Thr Arg Leu	Arg Leu Ala Gly Asn	Thr Arg Ile Ala Gln	Leu
	245	250	255
Arg Pro Glu Asp	Leu Ala Gly Leu Ala	Ala Leu Gln Glu Leu	Asp
	260	265	270
Val Ser Asn Leu	Ser Leu Gln Ala Leu	Pro Gly Asp Leu Ser	Gly
	275	280	285
Leu Phe Pro Arg	Leu Arg Leu Leu Ala	Ala Ala Arg Asn Pro	Phe
	290	295	300
Asn Cys Val Cys	Pro Leu Ser Trp Phe	Gly Pro Trp Val Arg	Glu
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Ser His Val Thr	Leu Ala Ser Pro Glu	Glu Thr Arg Cys His	Phe
	320	325	330
Pro Pro Lys Asn	Ala Gly Arg Leu Leu	Leu Glu Leu Asp Tyr	Ala
	335	340	345
Asp Phe Gly Cys	Pro Ala Thr Thr Thr	Thr Ala Thr Val Pro	Thr
	350	355	360
Thr Arg Pro Val	Val Arg Glu Pro Thr	Ala Leu Ser Ser Ser	Leu
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Ala Pro Thr Trp	Leu Ser Pro Thr Ala	Pro Ala Thr Glu Ala	Pro
	380	385	390
Ser Pro Pro Ser	Thr Ala Pro Pro Thr	Val Gly Pro Val Pro	Gln
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Pro Gln Asp Cys	Pro Pro Ser Thr Cys	Leu Asn Gly Gly Thr	Cys

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Phe Thr Gly Leu	Tyr Cys Glu Ser Gln	Met Gly Gln Gly Thr Arg			
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Pro Ser Pro Thr	Pro Val Thr Pro Arg	Pro Pro Arg Ser Leu Thr			
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Leu Glu Pro Gly	Pro Lys Ala Thr Glu	Gly Gly Gly Glu Ala Leu			
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<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 53

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<210> 54  
<211> 24  
<212> DNA  
<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

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<223> Synthetic oligonucleotide probe

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<210> 56  
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<211> 811  
<212> PRT  
<213> Homo sapiens

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Met Thr Asn Cys Ser Asn Met Ser Leu Arg Lys Val Pro Ala Asp  
35 40 45  
Leu Thr Pro Ala Thr Thr Thr Leu Asp Leu Ser Tyr Asn Leu Leu  
50 55 60  
Phe Gln Leu Gln Ser Ser Asp Phe His Ser Val Ser Lys Leu Arg  
65 70 75  
Val Leu Ile Leu Cys His Asn Arg Ile Gln Gln Leu Asp Leu Lys  
80 85 90

Thr	Phe	Glu	Phe	Asn	Lys	Glu	Leu	Arg	Tyr	Leu	Asp	Leu	Ser	Asn	
				95					100					105	
Asn	Arg	Leu	Lys	Ser	Val	Thr	Trp	Tyr	Leu	Leu	Ala	Gly	Leu	Arg	
				110					115					120	
Tyr	Leu	Asp	Leu	Ser	Phe	Asn	Asp	Phe	Asp	Thr	Met	Pro	Ile	Cys	
				125					130					135	
Glu	Glu	Ala	Gly	Asn	Met	Ser	His	Leu	Glu	Ile	Leu	Gly	Leu	Ser	
				140					145					150	
Gly	Ala	Lys	Ile	Gln	Lys	Ser	Asp	Phe	Gln	Lys	Ile	Ala	His	Leu	
				155					160					165	
His	Leu	Asn	Thr	Val	Phe	Leu	Gly	Phe	Arg	Thr	Leu	Pro	His	Tyr	
				170					175					180	
Glu	Glu	Gly	Ser	Leu	Pro	Ile	Leu	Asn	Thr	Thr	Lys	Leu	His	Ile	
				185					190					195	
Val	Leu	Pro	Met	Asp	Thr	Asn	Phe	Trp	Val	Leu	Leu	Arg	Asp	Gly	
				200					205					210	
Ile	Lys	Thr	Ser	Lys	Ile	Leu	Glu	Met	Thr	Asn	Ile	Asp	Gly	Lys	
				215					220					225	
Ser	Gln	Phe	Val	Ser	Tyr	Glu	Met	Gln	Arg	Asn	Leu	Ser	Leu	Glu	
				230					235					240	
Asn	Ala	Lys	Thr	Ser	Val	Leu	Leu	Leu	Asn	Lys	Val	Asp	Leu	Leu	
				245					250					255	
Trp	Asp	Asp	Leu	Phe	Leu	Ile	Leu	Gln	Phe	Val	Trp	His	Thr	Ser	
				260					265					270	
Val	Glu	His	Phe	Gln	Ile	Arg	Asn	Val	Thr	Phe	Gly	Gly	Lys	Ala	
				275					280					285	
Tyr	Leu	Asp	His	Asn	Ser	Phe	Asp	Tyr	Ser	Asn	Thr	Val	Met	Arg	
				290					295					300	
Thr	Ile	Lys	Leu	Glu	His	Val	His	Phe	Arg	Val	Phe	Tyr	Ile	Gln	
				305					310					315	
Gln	Asp	Lys	Ile	Tyr	Leu	Leu	Leu	Thr	Lys	Met	Asp	Ile	Glu	Asn	
				320					325					330	
Leu	Thr	Ile	Ser	Asn	Ala	Gln	Met	Pro	His	Met	Leu	Phe	Pro	Asn	
				335					340					345	
Tyr	Pro	Thr	Lys	Phe	Gln	Tyr	Leu	Asn	Phe	Ala	Asn	Asn	Ile	Leu	
				350					355					360	
Thr	Asp	Glu	Leu	Phe	Lys	Arg	Thr	Ile	Gln	Leu	Pro	His	Leu	Lys	
				365					370					375	
Thr	Leu	Ile	Leu	Asn	Gly	Asn	Lys	Leu	Glu	Thr	Leu	Ser	Leu	Val	
				380					385					390	
Ser	Cys	Phe	Ala	Asn	Asn	Thr	Pro	Leu	Glu	His	Leu	Asp	Leu	Ser	
				395					400					405	

Gln Asn Leu Leu	Gln His Lys Asn Asp	Glu Asn Cys Ser Trp Pro	410	415	420
Glu Thr Val Val	Asn Met Asn Leu Ser	Tyr Asn Lys Leu Ser Asp	425	430	435
Ser Val Phe Arg	Cys Leu Pro Lys Ser	Ile Gln Ile Leu Asp Leu	440	445	450
Asn Asn Asn Gln	Ile Gln Thr Val Pro	Lys Glu Thr Ile His Leu	455	460	465
Met Ala Leu Arg	Glu Leu Asn Ile Ala	Phe Asn Phe Leu Thr Asp	470	475	480
Leu Pro Gly Cys	Ser His Phe Ser Arg	Leu Ser Val Leu Asn Ile	485	490	495
Glu Met Asn Phe	Ile Leu Ser Pro Ser	Leu Asp Phe Val Gln Ser	500	505	510
Cys Gln Glu Val	Lys Thr Leu Asn Ala	Gly Arg Asn Pro Phe Arg	515	520	525
Cys Thr Cys Glu	Leu Lys Asn Phe Ile	Gln Leu Glu Thr Tyr Ser	530	535	540
Glu Val Met Met	Val Gly Trp Ser Asp	Ser Tyr Thr Cys Glu Tyr	545	550	555
Pro Leu Asn Leu	Arg Gly Thr Arg Leu	Lys Asp Val His Leu His	560	565	570
Glu Leu Ser Cys	Asn Thr Ala Leu Leu	Ile Val Thr Ile Val Val	575	580	585
Ile Met Leu Val	Leu Gly Leu Ala Val	Ala Phe Cys Cys Leu His	590	595	600
Phe Asp Leu Pro	Trp Tyr Leu Arg Met	Leu Gly Gln Cys Thr Gln	605	610	615
Thr Trp His Arg	Val Arg Lys Thr Thr	Gln Glu Gln Leu Lys Arg	620	625	630
Asn Val Arg Phe	His Ala Phe Ile Ser	Tyr Ser Glu His Asp Ser	635	640	645
Leu Trp Val Lys	Asn Glu Leu Ile Pro	Asn Leu Glu Lys Glu Asp	650	655	660
Gly Ser Ile Leu	Ile Cys Leu Tyr Glu	Ser Tyr Phe Asp Pro Gly	665	670	675
Lys Ser Ile Ser	Glu Asn Ile Val Ser	Phe Ile Glu Lys Ser Tyr	680	685	690
Lys Ser Ile Phe	Val Leu Ser Pro Asn	Phe Val Gln Asn Glu Trp	695	700	705
Cys His Tyr Glu	Phe Tyr Phe Ala His	His Asn Leu Phe His Glu	710	715	720



Asn	Ser	Asp	His	Ile	Ile	Leu	Ile	Leu	Leu	Glu	Pro	Ile	Pro	Phe
				725					730					735
Tyr	Cys	Ile	Pro	Thr	Arg	Tyr	His	Lys	Leu	Lys	Ala	Leu	Leu	Glu
				740					745					750
Lys	Lys	Ala	Tyr	Leu	Glu	Trp	Pro	Lys	Asp	Arg	Arg	Lys	Cys	Gly
				755					760					765
Leu	Phe	Trp	Ala	Asn	Leu	Arg	Ala	Ala	Ile	Asn	Val	Asn	Val	Leu
				770					775					780
Ala	Thr	Arg	Glu	Met	Tyr	Glu	Leu	Gln	Thr	Phe	Thr	Glu	Leu	Asn
				785					790					795
Glu	Glu	Ser	Arg	Gly	Ser	Thr	Ile	Ser	Leu	Met	Arg	Thr	Asp	Cys
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Leu

<210> 58  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 58  
 tcccaccagg tatcataaac tgaa 24

<210> 59  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 59  
 ttatagacaa tctgttctca tcagaga 27

<210> 60  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 60  
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<210> 61  
 <211> 3772  
 <212> DNA  
 <213> Homo sapiens

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ccccccctgcg cccgccccgc gcctctgcgc gccctgtcc gccccggccc 150  
 agcccagccc agccccgcgg gccggtcaca cgcgagcca gccggccgcc 200  
 tcccgcgccc aagcgcgccg ctctgctgtg ccctgcgccc ttgccccgcg 250  
 ccagctttctg cgccccgcgc cgcgccggcg cccccggtga ccgtgaccct 300  
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 aataaagcaa atggtgaagac ccttaaaaaa aaaaaaaaaa aaaaaaaaaa 3750  
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<210> 62  
 <211> 756  
 <212> PRT  
 <213> Homo sapiens

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 20 25 30  
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 35 40 45  
 Tyr Tyr Ala Arg Pro Glu Pro Glu Leu Glu Thr Phe Ser Pro Pro  
 50 55 60  
 Leu Pro Ala Gly Pro Gly Glu Glu Trp Glu Arg Arg Pro Gln Glu  
 65 70 75  
 Pro Arg Pro Pro Lys Arg Ala Thr Lys Pro Lys Lys Ala Pro Lys  
 80 85 90  
 Arg Glu Lys Ser Ala Pro Glu Pro Pro Pro Gly Lys His Ser  
 95 100 105  
 Asn Lys Lys Val Met Arg Thr Lys Ser Ser Glu Lys Ala Ala Asn  
 110 115 120  
 Asp Asp His Ser Val Arg Val Ala Arg Glu Asp Val Arg Glu Ser  
 125 130 135  
 Cys Pro Pro Leu Gly Leu Glu Thr Leu Lys Ile Thr Asp Phe Gln  
 140 145 150  
 Leu His Ala Ser Thr Val Lys Arg Tyr Gly Leu Gly Ala His Arg  
 155 160 165  
 Gly Arg Leu Asn Ile Gln Ala Gly Ile Asn Glu Asn Asp Phe Tyr  
 170 175 180  
 Asp Gly Ala Trp Cys Ala Gly Arg Asn Asp Leu Gln Gln Trp Ile

				185					190					195
Glu	Val	Asp	Ala	Arg 200	Arg	Leu	Thr	Arg	Phe 205	Thr	Gly	Val	Ile	Thr 210
Gln	Gly	Arg	Asn	Ser 215	Leu	Trp	Leu	Ser	Asp 220	Trp	Val	Thr	Ser	Tyr 225
Lys	Val	Met	Val	Ser 230	Asn	Asp	Ser	His	Thr 235	Trp	Val	Thr	Val	Lys 240
Asn	Gly	Ser	Gly	Asp 245	Met	Ile	Phe	Glu	Gly 250	Asn	Ser	Glu	Lys	Glu 255
Ile	Pro	Val	Leu	Asn 260	Glu	Leu	Pro	Val	Pro 265	Met	Val	Ala	Arg	Tyr 270
Ile	Arg	Ile	Asn	Pro 275	Gln	Ser	Trp	Phe	Asp 280	Asn	Gly	Ser	Ile	Cys 285
Met	Arg	Met	Glu	Ile 290	Leu	Gly	Cys	Pro	Leu 295	Pro	Asp	Pro	Asn	Asn 300
Tyr	Tyr	His	Arg	Arg 305	Asn	Glu	Met	Thr	Thr 310	Thr	Asp	Asp	Leu	Asp 315
Phe	Lys	His	His	Asn 320	Tyr	Lys	Glu	Met	Arg 325	Gln	Leu	Met	Lys	Val 330
Val	Asn	Glu	Met	Cys 335	Pro	Asn	Ile	Thr	Arg 340	Ile	Tyr	Asn	Ile	Gly 345
Lys	Ser	His	Gln	Gly 350	Leu	Lys	Leu	Tyr	Ala 355	Val	Glu	Ile	Ser	Asp 360
His	Pro	Gly	Glu	His 365	Glu	Val	Gly	Glu	Pro 370	Glu	Phe	His	Tyr	Ile 375
Ala	Gly	Ala	His	Gly 380	Asn	Glu	Val	Leu	Gly 385	Arg	Glu	Leu	Leu	Leu 390
Leu	Leu	Val	Gln	Phe 395	Val	Cys	Gln	Glu	Tyr 400	Leu	Ala	Arg	Asn	Ala 405
Arg	Ile	Val	His	Leu 410	Val	Glu	Glu	Thr	Arg 415	Ile	His	Val	Leu	Pro 420
Ser	Leu	Asn	Pro	Asp 425	Gly	Tyr	Glu	Lys	Ala 430	Tyr	Glu	Gly	Gly	Ser 435
Glu	Leu	Gly	Gly	Trp 440	Ser	Leu	Gly	Arg	Trp 445	Thr	His	Asp	Gly	Ile 450
Asp	Ile	Asn	Asn	Asn 455	Phe	Pro	Asp	Leu	Asn 460	Thr	Leu	Leu	Trp	Glu 465
Ala	Glu	Asp	Arg	Gln 470	Asn	Val	Pro	Arg	Lys 475	Val	Pro	Asn	His	Tyr 480
Ile	Ala	Ile	Pro	Glu 485	Trp	Phe	Leu	Ser	Glu 490	Asn	Ala	Thr	Val	Ala 495
Ala	Glu	Thr	Arg	Ala	Val	Ile	Ala	Trp	Met	Glu	Lys	Ile	Pro	Phe

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Val Leu Gly Gly	Asn Leu Gln Gly Gly	Glu Leu Val Val Ala Tyr			
	515		520		525
Pro Tyr Asp Leu	Val Arg Ser Pro Trp	Lys Thr Gln Glu His Thr			
	530		535		540
Pro Thr Pro Asp	Asp His Val Phe Arg	Trp Leu Ala Tyr Ser Tyr			
	545		550		555
Ala Ser Thr His	Arg Leu Met Thr Asp	Ala Arg Arg Arg Val Cys			
	560		565		570
His Thr Glu Asp	Phe Gln Lys Glu Glu	Gly Thr Val Asn Gly Ala			
	575		580		585
Ser Trp His Thr	Val Ala Gly Ser Leu	Asn Asp Phe Ser Tyr Leu			
	590		595		600
His Thr Asn Cys	Phe Glu Leu Ser Ile	Tyr Val Gly Cys Asp Lys			
	605		610		615
Tyr Pro His Glu	Ser Gln Leu Pro Glu	Glu Trp Glu Asn Asn Arg			
	620		625		630
Glu Ser Leu Ile	Val Phe Met Glu Gln	Val His Arg Gly Ile Lys			
	635		640		645
Gly Leu Val Arg	Asp Ser His Gly Lys	Gly Ile Pro Asn Ala Ile			
	650		655		660
Ile Ser Val Glu	Gly Ile Asn His Asp	Ile Arg Thr Ala Asn Asp			
	665		670		675
Gly Asp Tyr Trp	Arg Leu Leu Asn Pro	Gly Glu Tyr Val Val Thr			
	680		685		690
Ala Lys Ala Glu	Gly Phe Thr Ala Ser	Thr Lys Asn Cys Met Val			
	695		700		705
Gly Tyr Asp Met	Gly Ala Thr Arg Cys	Asp Phe Thr Leu Ser Lys			
	710		715		720
Thr Asn Met Ala	Arg Ile Arg Glu Ile	Met Glu Lys Phe Gly Lys			
	725		730		735
Gln Pro Val Ser	Leu Pro Ala Arg Arg	Leu Lys Leu Arg Gly Arg			
	740		745		750
Lys Arg Arg Gln	Arg Gly				
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<210> 63

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 63

gttctcaatg agctacccgt cccc 24

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<220>  
 <223> Synthetic oligonucleotide probe

<400> 64  
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<210> 65  
 <211> 50  
 <212> DNA  
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<220>  
 <223> Synthetic oligonucleotide probe

<400> 65  
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<210> 66  
 <211> 2854  
 <212> DNA  
 <213> Homo sapiens

<400> 66  
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 cgtgggacct gccagtgtc tgtttccctg ccagacacca cctttcccgt 300  
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 ggtacagcag tttaacaaca caacatgtac gtcaacatgt acaacaccgg 1050  
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 gcaatgttta ggtgcatagt tctaccacac tagagatcta ggacatttgt 1700  
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aaaa 2854

<210> 67  
<211> 510  
<212> PRT  
<213> Homo sapiens

<400> 67  
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35 40 45  
Phe Ser Ser Ser Ser Arg Ser Gly Ser Ser Ser Ser Arg Ser Leu  
50 55 60  
Gly Ser Gly Gly Ser Val Ser Gln Leu Phe Ser Asn Phe Thr Gly  
65 70 75  
Ser Val Asp Asp Arg Gly Thr Cys Gln Cys Ser Val Ser Leu Pro  
80 85 90  
Asp Thr Thr Phe Pro Val Asp Arg Val Glu Arg Leu Glu Phe Thr  
95 100 105  
Ala His Val Leu Ser Gln Lys Phe Glu Lys Glu Leu Ser Lys Val  
110 115 120  
Arg Glu Tyr Val Gln Leu Ile Ser Val Tyr Glu Lys Lys Leu Leu  
125 130 135  
Asn Leu Thr Val Arg Ile Asp Ile Met Glu Lys Asp Thr Ile Ser  
140 145 150  
Tyr Thr Glu Leu Asp Phe Glu Leu Ile Lys Val Glu Val Lys Glu  
155 160 165  
Met Glu Lys Leu Val Ile Gln Leu Lys Glu Ser Phe Gly Gly Ser  
170 175 180  
Ser Glu Ile Val Asp Gln Leu Glu Val Glu Ile Arg Asn Met Thr  
185 190 195  
Leu Leu Val Glu Lys Leu Glu Thr Leu Asp Lys Asn Asn Val Leu  
200 205 210

Ala	Ile	Arg	Arg	Glu	Ile	Val	Ala	Leu	Lys	Thr	Lys	Leu	Lys	Glu	215	220	225
Cys	Glu	Ala	Ser	Lys	Asp	Gln	Asn	Thr	Pro	Val	Val	His	Pro	Pro	230	235	240
Pro	Thr	Pro	Gly	Ser	Cys	Gly	His	Gly	Gly	Val	Val	Asn	Ile	Ser	245	250	255
Lys	Pro	Ser	Val	Val	Gln	Leu	Asn	Trp	Arg	Gly	Phe	Ser	Tyr	Leu	260	265	270
Tyr	Gly	Ala	Trp	Gly	Arg	Asp	Tyr	Ser	Pro	Gln	His	Pro	Asn	Lys	275	280	285
Gly	Leu	Tyr	Trp	Val	Ala	Pro	Leu	Asn	Thr	Asp	Gly	Arg	Leu	Leu	290	295	300
Glu	Tyr	Tyr	Arg	Leu	Tyr	Asn	Thr	Leu	Asp	Asp	Leu	Leu	Leu	Tyr	305	310	315
Ile	Asn	Ala	Arg	Glu	Leu	Arg	Ile	Thr	Tyr	Gly	Gln	Gly	Ser	Gly	320	325	330
Thr	Ala	Val	Tyr	Asn	Asn	Asn	Met	Tyr	Val	Asn	Met	Tyr	Asn	Thr	335	340	345
Gly	Asn	Ile	Ala	Arg	Val	Asn	Leu	Thr	Thr	Asn	Thr	Ile	Ala	Val	350	355	360
Thr	Gln	Thr	Leu	Pro	Asn	Ala	Ala	Tyr	Asn	Asn	Arg	Phe	Ser	Tyr	365	370	375
Ala	Asn	Val	Ala	Trp	Gln	Asp	Ile	Asp	Phe	Ala	Val	Asp	Glu	Asn	380	385	390
Gly	Leu	Trp	Val	Ile	Tyr	Ser	Thr	Glu	Ala	Ser	Thr	Gly	Asn	Met	395	400	405
Val	Ile	Ser	Lys	Leu	Asn	Asp	Thr	Thr	Leu	Gln	Val	Leu	Asn	Thr	410	415	420
Trp	Tyr	Thr	Lys	Gln	Tyr	Lys	Pro	Ser	Ala	Ser	Asn	Ala	Phe	Met	425	430	435
Val	Cys	Gly	Val	Leu	Tyr	Ala	Thr	Arg	Thr	Met	Asn	Thr	Arg	Thr	440	445	450
Glu	Glu	Ile	Phe	Tyr	Tyr	Tyr	Asp	Thr	Asn	Thr	Gly	Lys	Glu	Gly	455	460	465
Lys	Leu	Asp	Ile	Val	Met	His	Lys	Met	Gln	Glu	Lys	Val	Gln	Ser	470	475	480
Ile	Asn	Tyr	Asn	Pro	Phe	Asp	Gln	Lys	Leu	Tyr	Val	Tyr	Asn	Asp	485	490	495
Gly	Tyr	Leu	Leu	Asn	Tyr	Asp	Leu	Ser	Val	Leu	Gln	Lys	Pro	Gln	500	505	510

<210> 68  
 <211> 410  
 <212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 206, 217, 387

<223> unknown base

<400> 68

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 ggtgaacatc agcaaaccgt ctgtggttca gctcaactgg agaggggtttt 150  
 cttatctata tgggtgcttg ggtagggatt actctcccca gcatccaaac 200  
 aaaggngatgt attggngngc gccattgaat acagatggga gactgttgga 250  
 gtattataga ctgtacaacc cactggatga tttgctattg tatataaatg 300  
 ctcgagagtt gcggatcacc tatggccaag gtagtggtag agcagtttac 350  
 aacaacaaca tgtacgtcaa catgtacaac accgggnata ttgccagagt 400  
 taacctgacc 410

<210> 69

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 69

agctgtggtc atgggtggtgt ggtg 24

<210> 70

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 70

ctaccttggc cataggtgat ccgc 24

<210> 71

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 71

catcagcaaa ccgtctgtgg ttcagctcaa ctggagaggg tt 42

<210> 72

<211> 3127

<212> DNA

<213> Homo sapiens

<400> 72

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tggggctgtg ctccatggcg agctggatac catgtttgtg tggaagtgcc 150  
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cacaatggat tttggttctt taaatttgcg gcagcaattg caattattat 500  
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 atgaattcag agaaaaaaaa aaaaaaa 3127

<210> 73  
 <211> 453  
 <212> PRT  
 <213> Homo sapiens

<400> 73

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Cys	Leu	Cys	Gly	Ser	Ala	Pro	Cys	Leu	Leu	Cys	Arg	Cys	Cys	Pro	
				20					25					30	
Ser	Gly	Asn	Asn	Ser	Thr	Val	Thr	Arg	Leu	Ile	Tyr	Ala	Leu	Phe	
				35					40					45	
Leu	Leu	Val	Gly	Val	Cys	Val	Ala	Cys	Val	Met	Leu	Ile	Pro	Gly	
				50					55					60	
Met	Glu	Glu	Gln	Leu	Asn	Lys	Ile	Pro	Gly	Phe	Cys	Glu	Asn	Glu	
				65					70					75	
Lys	Gly	Val	Val	Pro	Cys	Asn	Ile	Leu	Val	Gly	Tyr	Lys	Ala	Val	
				80					85					90	
Tyr	Arg	Leu	Cys	Phe	Gly	Leu	Ala	Met	Phe	Tyr	Leu	Leu	Leu	Ser	
				95					100					105	
Leu	Leu	Met	Ile	Lys	Val	Lys	Ser	Ser	Ser	Asp	Pro	Arg	Ala	Ala	
				110					115					120	
Val	His	Asn	Gly	Phe	Trp	Phe	Phe	Lys	Phe	Ala	Ala	Ala	Ile	Ala	
				125					130					135	
Ile	Ile	Ile	Gly	Ala	Phe	Phe	Ile	Pro	Glu	Gly	Thr	Phe	Thr	Thr	
				140					145					150	
Val	Trp	Phe	Tyr	Val	Gly	Met	Ala	Gly	Ala	Phe	Cys	Phe	Ile	Leu	
				155					160					165	
Ile	Gln	Leu	Val	Leu	Leu	Ile	Asp	Phe	Ala	His	Ser	Trp	Asn	Glu	
				170					175					180	
Ser	Trp	Val	Glu	Lys	Met	Glu	Glu	Gly	Asn	Ser	Arg	Cys	Trp	Tyr	
				185					190					195	
Ala	Ala	Leu	Leu	Ser	Ala	Thr	Ala	Leu	Asn	Tyr	Leu	Leu	Ser	Leu	
				200					205					210	
Val	Ala	Ile	Val	Leu	Phe	Phe	Val	Tyr	Tyr	Thr	His	Pro	Ala	Ser	
				215					220					225	
Cys	Ser	Glu	Asn	Lys	Ala	Phe	Ile	Ser	Val	Asn	Met	Leu	Leu	Cys	
				230					235					240	
Val	Gly	Ala	Ser	Val	Met	Ser	Ile	Leu	Pro	Lys	Ile	Gln	Glu	Ser	
				245					250					255	
Gln	Pro	Arg	Ser	Gly	Leu	Leu	Gln	Ser	Ser	Val	Ile	Thr	Val	Tyr	
				260					265					270	
Thr	Met	Tyr	Leu	Thr	Trp	Ser	Ala	Met	Thr	Asn	Glu	Pro	Glu	Thr	
				275					280					285	

099163-1401  
T04111-EGT550

Asn	Cys	Asn	Pro	Ser	Leu	Leu	Ser	Ile	Ile	Gly	Tyr	Asn	Thr	Thr	
				290					295					300	
Ser	Thr	Val	Pro	Lys	Glu	Gly	Gln	Ser	Val	Gln	Trp	Trp	His	Ala	
				305					310					315	
Gln	Gly	Ile	Ile	Gly	Leu	Ile	Leu	Phe	Leu	Leu	Cys	Val	Phe	Tyr	
				320					325					330	
Ser	Ser	Ile	Arg	Thr	Ser	Asn	Asn	Ser	Gln	Val	Asn	Lys	Leu	Thr	
				335					340					345	
Leu	Thr	Ser	Asp	Glu	Ser	Thr	Leu	Ile	Glu	Asp	Gly	Gly	Ala	Arg	
				350					355					360	
Ser	Asp	Gly	Ser	Leu	Glu	Asp	Gly	Asp	Asp	Val	His	Arg	Ala	Val	
				365					370					375	
Asp	Asn	Glu	Arg	Asp	Gly	Val	Thr	Tyr	Ser	Tyr	Ser	Phe	Phe	His	
				380					385					390	
Phe	Met	Leu	Phe	Leu	Ala	Ser	Leu	Tyr	Ile	Met	Met	Thr	Leu	Thr	
				395					400					405	
Asn	Trp	Ser	Arg	Tyr	Glu	Pro	Ser	Arg	Glu	Met	Lys	Ser	Gln	Trp	
				410					415					420	
Thr	Ala	Val	Trp	Val	Lys	Ile	Ser	Ser	Ser	Trp	Ile	Gly	Ile	Val	
				425					430					435	
Leu	Tyr	Val	Trp	Thr	Leu	Val	Ala	Pro	Leu	Val	Leu	Thr	Asn	Arg	
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Asp Phe Asp

<210> 74  
 <211> 480  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 48, 163  
 <223> unknown base

<400> 74  
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 ataccatggt tgtgtggaag tgccccgtgt ttgctatgcc gatgctgtcc 150  
 tagtggaac aantccactg taactagatt gatctatgca cttttcttgc 200  
 ttgttgagat atgtgtagct tgtgtaatgt tgataccagg aatggaagaa 250  
 caactgaata agattcctgg attttgtgag aatgagaaag gtgttgtccc 300  
 ttgtaacatt ttggttggt ataaagctgt atatcgtttg tgctttggtt 350  
 tggctatggt ctatcttctt ctctctttac taatgatcaa agtgaagagt 400





<210> 77  
<211> 666  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 21, 111  
<223> unknown base

<400> 77  
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actttttcct tgcttggttg agtatgtgta gctttgtgta atgttggtcc 100  
caggattgga ngaacaactg aataagattc ctggattttt gtgagaatga 150  
gaaaggtggt gtccccttgt aacatttttg gttggctata aagctgtata 200  
tcgtttgtgc tttggtttgg ctatgttcta tcttcttctc tctttactaa 250  
tgatcaaagt gaagagtagc agtgatccta gagctgcagt gcacaatgga 300  
ttttggttct ttaaatttgc tgcagcaatt gcaattatta ttggggcatt 350  
cttcattcca gaaggaactt ttacaactgt gtggttttat gtaggcatgg 400  
cagggtgcctt ttgtttcatc ctcatacaac tagtcttact tattgatttt 450  
gcacattcat ggaatgaatc gtgggttgaa aaaatggaag aagggaactc 500  
gagatgttgg tatgcagcct tgttatcagc tacagctctg aattatctgc 550  
tgtctttagt tgctatcgtc ctgttctttg tctactacac tcatccagcc 600  
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tggtgcttct gtaatg 666

<210> 78  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 78  
atgtttgtgt ggaagtgccc cg 22

<210> 79  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 79  
gtcaacatgc tcctctgc 18

<210> 80  
<211> 26

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 80  
aatccattgt gcactgcagc tctagg 26

<210> 81  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 81  
gagcatgccca ccactggact gac 23

<210> 82  
<211> 54  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 82  
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<210> 83  
<211> 3906  
<212> DNA  
<213> Homo sapiens

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 <211> 867  
 <212> PRT  
 <213> Homo sapiens

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 35 40 45  
 Ile Ile Leu Val Leu Thr Asp Asp Gln Asp Val Glu Leu Gly Ser  
 50 55 60  
 Met Gln Val Met Asn Lys Thr Arg Arg Ile Met Glu Gln Gly Gly  
 65 70 75  
 Ala His Phe Ile Asn Ala Phe Val Thr Thr Pro Met Cys Cys Pro  
 80 85 90  
 Ser Arg Ser Ser Ile Leu Thr Gly Lys Tyr Val His Asn His Asn  
 95 100 105  
 Thr Tyr Thr Asn Asn Glu Asn Cys Ser Ser Pro Ser Trp Gln Ala  
 110 115 120  
 Gln His Glu Ser Arg Thr Phe Ala Val Tyr Leu Asn Ser Thr Gly  
 125 130 135  
 Tyr Arg Thr Ala Phe Phe Gly Lys Tyr Leu Asn Glu Tyr Asn Gly  
 140 145 150  
 Ser Tyr Val Pro Pro Gly Trp Lys Glu Trp Val Gly Leu Leu Lys  
 155 160 165  
 Asn Ser Arg Phe Tyr Asn Tyr Thr Leu Cys Arg Asn Gly Val Lys  
 170 175 180  
 Glu Lys His Gly Ser Asp Tyr Ser Lys Asp Tyr Leu Thr Asp Leu  
 185 190 195  
 Ile Thr Asn Asp Ser Val Ser Phe Phe Arg Thr Ser Lys Lys Met  
 200 205 210  
 Tyr Pro His Arg Pro Val Leu Met Val Ile Ser His Ala Ala Pro  
 215 220 225  
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 230 235 240  
 Asn Ala Ser Gln His Ile Thr Pro Ser Tyr Asn Tyr Ala Pro Asn  
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Ile	His	Met	Glu	Phe	Thr	Asn	Met	Leu	Gln	Arg	Lys	Arg	Leu	Gln	
				275					280					285	
Thr	Leu	Met	Ser	Val	Asp	Asp	Ser	Met	Glu	Thr	Ile	Tyr	Asn	Met	
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Leu	Val	Glu	Thr	Gly	Glu	Leu	Asp	Asn	Thr	Tyr	Ile	Val	Tyr	Thr	
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Lys	Ser	Met	Pro	Tyr	Glu	Phe	Asp	Ile	Arg	Val	Pro	Phe	Tyr	Val	
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Arg	Gly	Pro	Asn	Val	Glu	Ala	Gly	Cys	Leu	Asn	Pro	His	Ile	Val	
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Asp	Ile	Pro	Ala	Asp	Met	Asp	Gly	Lys	Ser	Ile	Leu	Lys	Leu	Leu	
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Asp	Thr	Glu	Arg	Pro	Val	Asn	Arg	Phe	His	Leu	Lys	Lys	Lys	Met	
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Arg	Val	Trp	Arg	Asp	Ser	Phe	Leu	Val	Glu	Arg	Gly	Lys	Leu	Leu	
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His	Lys	Arg	Asp	Asn	Asp	Lys	Val	Asp	Ala	Gln	Glu	Glu	Asn	Phe	
				425					430					435	
Leu	Pro	Lys	Tyr	Gln	Arg	Val	Lys	Asp	Leu	Cys	Gln	Arg	Ala	Glu	
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Tyr	Gln	Thr	Ala	Cys	Glu	Gln	Leu	Gly	Gln	Lys	Trp	Gln	Cys	Val	
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Glu	Asp	Ala	Thr	Gly	Lys	Leu	Lys	Leu	His	Lys	Cys	Lys	Gly	Pro	
				470					475					480	
Met	Arg	Leu	Gly	Gly	Ser	Arg	Ala	Leu	Ser	Asn	Leu	Val	Pro	Lys	
				485					490					495	
Tyr	Tyr	Gly	Gln	Gly	Ser	Glu	Ala	Cys	Thr	Cys	Asp	Ser	Gly	Asp	
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Tyr	Lys	Leu	Ser	Leu	Ala	Gly	Arg	Arg	Lys	Lys	Leu	Phe	Lys	Lys	
				515					520					525	
Lys	Tyr	Lys	Ala	Ser	Tyr	Val	Arg	Ser	Arg	Ser	Ile	Arg	Ser	Val	
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Ala	Ile	Glu	Val	Asp	Gly	Arg	Val	Tyr	His	Val	Gly	Leu	Gly	Asp	
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His	Arg	Cys	Tyr	Ile 605	Leu	Glu	Asn	Asp	Thr 610	Val	Gln	Cys	Asp	Leu 615
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Ile	Asp	His	Glu	Ile 635	Glu	Thr	Leu	Gln	Asn 640	Lys	Ile	Lys	Asn	Leu 645
Arg	Glu	Val	Arg	Gly 650	His	Leu	Lys	Lys	Lys 655	Arg	Pro	Glu	Glu	Cys 660
Asp	Cys	His	Lys	Ile 665	Ser	Tyr	His	Thr	Gln 670	His	Lys	Gly	Arg	Leu 675
Lys	His	Arg	Gly	Ser 680	Ser	Leu	His	Pro	Phe 685	Arg	Lys	Gly	Leu	Gln 690
Glu	Lys	Asp	Lys	Val 695	Trp	Leu	Leu	Arg	Glu 700	Gln	Lys	Arg	Lys	Lys 705
Lys	Leu	Arg	Lys	Leu 710	Leu	Lys	Arg	Leu	Gln 715	Asn	Asn	Asp	Thr	Cys 720
Ser	Met	Pro	Gly	Leu 725	Thr	Cys	Phe	Thr	His 730	Asp	Asn	Gln	His	Trp 735
Gln	Thr	Ala	Pro	Phe 740	Trp	Thr	Leu	Gly	Pro 745	Phe	Cys	Ala	Cys	Thr 750
Ser	Ala	Asn	Asn	Asn 755	Thr	Tyr	Trp	Cys	Met 760	Arg	Thr	Ile	Asn	Glu 765
Thr	His	Asn	Phe	Leu 770	Phe	Cys	Glu	Phe	Ala 775	Thr	Gly	Phe	Leu	Glu 780
Tyr	Phe	Asp	Leu	Asn 785	Thr	Asp	Pro	Tyr	Gln 790	Leu	Met	Asn	Ala	Val 795
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Met	Glu	Leu	Arg	Ser 815	Cys	Lys	Gly	Tyr	Lys 820	Gln	Cys	Asn	Pro	Arg 825
Thr	Arg	Asn	Met	Asp 830	Leu	Asp	Gly	Gly	Ser 835	Tyr	Glu	Gln	Tyr	Arg 840
Gln	Phe	Gln	Arg	Arg 845	Lys	Trp	Pro	Glu	Met 850	Lys	Arg	Pro	Ser	Ser 855
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<223> Synthetic oligonucleotide probe

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aagggcctgc aagagaag 18

<210> 88  
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<210> 90  
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<223> Synthetic oligonucleotide probe

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**Abstract**

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<220>  
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<211> 45
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<213> Artificial Sequence
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<212> DNA
<213> Homo sapiens
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<210> 95  
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 Cys Leu Phe His Gly Arg Gln Asp Cys Asp Val Glu Arg Asn Arg  
 35 40 45  
 Thr Ala Ala Gly Gly Asn Arg Val Arg Arg Ala Gln Pro Trp Pro  
 50 55 60  
 Phe Arg Arg Arg Gly His Leu Gly Ile Phe His His His Arg His  
 65 70 75  
 Pro Gly His Val Ser His Val Pro Asn Val Gly Leu His His His  
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<210> 96  
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 aaaaaaaaaa aa 1312

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 <212> PRT  
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 Val Thr Val Ala Tyr Lys Phe His Met Gly Leu Tyr Gly Glu Thr  
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 Gly Arg Leu Phe Thr Glu Ser Cys Ser Ile Ser Pro Lys Leu Arg  
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Lys	Cys	Arg	Cys	Ala	Val	Gly	Ser	Ile	Leu	Ser	Glu	Gly	Glu	Glu	
				95					100					105	
Ser	Pro	Ser	Pro	Glu	Leu	Ile	Asp	Leu	Tyr	Gln	Lys	Phe	Gly	Phe	
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Lys	Val	Phe	Ser	Phe	Pro	Ala	Pro	Ser	His	Val	Val	Thr	Ala	Thr	
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Phe	Pro	Tyr	Thr	Thr	Ile	Leu	Ser	Ile	Trp	Leu	Ala	Thr	Arg	Arg	
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Val	His	Pro	Ala	Leu	Asp	Thr	Tyr	Ile	Lys	Glu	Arg	Lys	Leu	Cys	
				155					160					165	
Ala	Tyr	Pro	Arg	Leu	Glu	Ile	Tyr	Gln	Glu	Asp	Gln	Ile	His	Phe	
				170					175					180	
Met	Cys	Pro	Leu	Ala	Arg	Gln	Gly	Asp	Phe	Tyr	Val	Pro	Glu	Met	
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Lys	Glu	Thr	Glu	Trp	Lys	Trp	Arg	Gly	Leu	Val	Glu	Ala	Ile	Asp	
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Thr	Gln	Val	Asp	Gly	Thr	Gly	Ala	Asp	Thr	Met	Ser	Asp	Thr	Ser	
				215					220					225	
Ser	Val	Ser	Leu	Glu	Val	Ser	Pro	Gly	Ser	Arg	Glu	Thr	Ser	Ala	
				230					235					240	
Ala	Thr	Leu	Ser	Pro	Gly	Ala	Ser	Ser	Arg	Gly	Trp	Asp	Asp	Gly	
				245					250					255	
Asp	Thr	Arg	Ser	Glu	His	Ser	Tyr	Ser	Glu	Ser	Gly	Ala	Ser	Gly	
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Ser	Ser	Phe	Glu	Glu	Leu	Asp	Leu	Glu	Gly	Glu	Gly	Pro	Leu	Gly	
				275					280					285	
Glu	Ser	Arg	Leu	Asp	Pro	Gly	Thr	Glu	Pro	Leu	Gly	Thr	Thr	Lys	
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 <212> DNA  
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 ctgaggctgg gctcgaaacc gaaagtccg tccggaccct ccaagtggag 200  
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caccatctgt cccagcggat gcagtgggtgc agtatgacgt ggagctgatt 500  
gcactaatcc gagccaacta ctggctaaag ctgggtgaagg gcattttgcc 550  
tctggtaggg atggccatgg tgccagccct cctgggcctc attgggtatc 600  
acctatacag aaaggccaat agacccaaag tctccaaaaa gaagctcaag 650  
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aaaacttaaa aaaaaaaaaa aaaaa 725

<210> 99

<211> 201

<212> PRT

<213> Homo sapiens

<400> 99

Met	Thr	Leu	Arg	Pro	Ser	Leu	Leu	Pro	Leu	His	Leu	Leu	Leu	Leu	1	5	10	15
Leu	Leu	Leu	Ser	Ala	Ala	Val	Cys	Arg	Ala	Glu	Ala	Gly	Leu	Glu	20	25	30	
Thr	Glu	Ser	Pro	Val	Arg	Thr	Leu	Gln	Val	Glu	Thr	Leu	Val	Glu	35	40	45	
Pro	Pro	Glu	Pro	Cys	Ala	Glu	Pro	Ala	Ala	Phe	Gly	Asp	Thr	Leu	50	55	60	
His	Ile	His	Tyr	Thr	Gly	Ser	Leu	Val	Asp	Gly	Arg	Ile	Ile	Asp	65	70	75	
Thr	Ser	Leu	Thr	Arg	Asp	Pro	Leu	Val	Ile	Glu	Leu	Gly	Gln	Lys	80	85	90	
Gln	Val	Ile	Pro	Gly	Leu	Glu	Gln	Ser	Leu	Leu	Asp	Met	Cys	Val	95	100	105	
Gly	Glu	Lys	Arg	Arg	Ala	Ile	Ile	Pro	Ser	His	Leu	Ala	Tyr	Gly	110	115	120	
Lys	Arg	Gly	Phe	Pro	Pro	Ser	Val	Pro	Ala	Asp	Ala	Val	Val	Gln	125	130	135	
Tyr	Asp	Val	Glu	Leu	Ile	Ala	Leu	Ile	Arg	Ala	Asn	Tyr	Trp	Leu	140	145	150	
Lys	Leu	Val	Lys	Gly	Ile	Leu	Pro	Leu	Val	Gly	Met	Ala	Met	Val	155	160	165	
Pro	Ala	Leu	Leu	Gly	Leu	Ile	Gly	Tyr	His	Leu	Tyr	Arg	Lys	Ala	170	175	180	
Asn	Arg	Pro	Lys	Val	Ser	Lys	Lys	Lys	Leu	Lys	Glu	Glu	Lys	Arg				

185

190

195

Asn Lys Ser Lys Lys Lys  
200

<210> 100  
<211> 705  
<212> DNA  
<213> Homo sapiens

<400> 100  
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ccggctccct gccccgcgcc cagtcacgac cctgcgcccc tcactcctcc 100  
cgctccatct gctgctgctg ctgctgctca gtgcggcggt gtgccgggct 150  
gaggctgggc tcgaaaccga aagtcccgtc cggaccctcc aagtggagac 200  
cctggtggag cccccagaac catgtgcga gcccgctgct tttggagaca 250  
cgcttcacat acactacacg ggaagcttgg tagatggacg tattattgac 300  
acctccctga ccagagaccc tctggttata gaacttggcc aaaagcaggt 350  
gattccaggt ctggagcaga gtcttctoga catgtgtgtg ggagagaagc 400  
gaagggcaat cattccttct cacttggcct atggaaaacg gggatttcca 450  
ccatctgtcc cagcggatgc agtggcgcag tatgacgtgg agctgattgc 500  
actaatccga gccaaactact ggctaaagct ggtgaagggc attttgcctc 550  
tggtagggat ggccatggtg ccacctcct gggcctcatt gggatcacc 600  
tatacagaaa ggccaataga cccaaagtct ccaaaaagaa gctcaaggaa 650  
gagaaacgaa acaagagcaa aaagaaataa taaataataa attttaaaaa 700  
actta 705

<210> 101  
<211> 543  
<212> DNA  
<213> Homo sapiens

<400> 101  
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gaaccatgtg ccgagcccgcc tgcttttggg gacacgcttc acatacacta 100  
cacgggaagc ttggtagatg gacgtattat tgacacctcc ctgaccagag 150  
accctctggt tatagaactt ggccaaaagc aggtgattcc aggtctggag 200  
cagagtcttc tcgacatgtg tgtgggagag aagcgaaggg caatcattcc 250  
ttctcaacttg gcctatggaa aacggggatt tccaccatct gtcccagcgg 300  
atgcagtggg gcagtatgac gtggagctga ttgcactaat ccgagccaac 350  
tactggctaa agctggtgaa gggcattttg cctctggtag ggatggccat 400

ggtgccagcc ctctgggcc tcattgggta tcacctatac agaaaggcca 450  
atagacccaa agtctccaaa aagaagctca aggaagagaa acgaaacaag 500  
agcaaaaaga aataataaat aataaatttt aaaaaactta aaa 543

<210> 102  
<211> 1316  
<212> DNA  
<213> Homo sapiens

<400> 102  
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ccactgcacg acggggcttg actgacctga aaaaaatgtc tggatttcta 150  
gagggcttga gatgctcaga atgcattgac tggggggaaa agcgcaatac 200  
tattgcttcc attgctgctg gtgtactatt ttttacaggc tggaggatta 250  
tcatagatgc agctgttatt tatcccacca tgaaagattt caaccactca 300  
taccatgcct gtggtgttat agcaaccata gccttcctaa tgattaatgc 350  
agtatcgaat ggacaagtcc gaggtgatag ttacagtga ggttgtctgg 400  
gtcaaacagg tgctcgcat tggcttttcg ttggtttcat gttggccttt 450  
ggatctctga ttgcatctat gtggattcct tttggagggt atgttgctaa 500  
agaaaaagac atagtatacc ctggaattgc tgtatttttc cagaatgcct 550  
tcactctttt tggagggtcg gtttttaagt ttggccgcac tgaagactta 600  
tggcagtga cacaatctgat tcccacagc acaacagccc tgcattgggt 650  
tgtttgtttt tttactgctc actoccaaacc ttttgtaatg ccattttcta 700  
aacttatttc tgagtgtagt ctcagcttaa agttgtgtaa tactaaaatc 750  
acgagaacac ctaaacaaca accaaaaatc tattgtggta tgcacttgat 800  
taacttataa aatgttagag gaaactttca catgaataat ttttgtcaaa 850  
ttttatcatg gtataatttg taaaaataaa aagaaattac aaaagaaatt 900  
atggatttgt caatgtaagt atttgtcata tctgagggtcc aaaaccacaa 950  
tgaaagtgt ctgaagattt aatgtgttta ttcaaatgtg gtctcttctg 1000  
tgtcaaatgt taaatgaaat ataaacattt tttagttttt aaaatattcc 1050  
gtggtcaaaa ttcttcctca ctataattgg tatttacttt taccaaaaat 1100  
tctgtgaaca tgtaatgtaa ctggcttttg aggggtctccc aaggggtgag 1150  
tgacagtgtt ggaagagaga agcaccatgg tccagccacc aggtccctg 1200  
tgtcccttcc atgggaaggt cttcogotgt gcctctcatt ccaagggcag 1250  
gaagatgtga ctcagccatg acaogtgggt ctggtgggat gcacagtcac 1300

tccacatcca ccactg 1316

<210> 103

<211> 157

<212> PRT

<213> Homo sapiens

<400> 103

Met Ser Gly Phe Leu Glu Gly Leu Arg Cys Ser Glu Cys Ile Asp  
1 5 10 15  
Trp Gly Glu Lys Arg Asn Thr Ile Ala Ser Ile Ala Ala Gly Val  
20 25 30  
Leu Phe Phe Thr Gly Trp Trp Ile Ile Ile Asp Ala Ala Val Ile  
35 40 45  
Tyr Pro Thr Met Lys Asp Phe Asn His Ser Tyr His Ala Cys Gly  
50 55 60  
Val Ile Ala Thr Ile Ala Phe Leu Met Ile Asn Ala Val Ser Asn  
65 70 75  
Gly Gln Val Arg Gly Asp Ser Tyr Ser Glu Gly Cys Leu Gly Gln  
80 85 90  
Thr Gly Ala Arg Ile Trp Leu Phe Val Gly Phe Met Leu Ala Phe  
95 100 105  
Gly Ser Leu Ile Ala Ser Met Trp Ile Leu Phe Gly Gly Tyr Val  
110 115 120  
Ala Lys Glu Lys Asp Ile Val Tyr Pro Gly Ile Ala Val Phe Phe  
125 130 135  
Gln Asn Ala Phe Ile Phe Phe Gly Gly Leu Val Phe Lys Phe Gly  
140 145 150  
Arg Thr Glu Asp Leu Trp Gln  
155

<210> 104

<211> 545

<212> DNA

<213> Homo sapiens

<400> 104

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tggatttcta gagggcttga gatgctcaga atgcattgac tggggggaaa 150  
agcgcaatac tattgcttcc attgctgctg gtgtactatt ttttacaggc 200  
tgggtggatta tcatagatgc agctgttatt tatccacca tgaaagattt 250  
caaccactca taccatgcct gtgggtgttat agcaaccata gccttcctaa 300  
tgattaatgc agtatcgaat ggacaagtcc gaggtgatag ttacagtga 350  
ggttgtctgg gtcaaacagg tgctcgcat tggcttttcg ttggtttcat 400



gttggccttt ggatctctga ttgcatctat gtggattctt tttggagggt 450  
 atgttgctaa agaaaaagac atagtatacc ctggaattgc tgtatttttc 500  
 cagaatgcct tcactctttt tggagggctg gtttttaagt ttggc 545

<210> 105  
 <211> 490  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 31, 39, 108, 145, 179, 219, 412, 479  
 <223> unknown base

<400> 105  
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 agaatgcatg actgggggaa aagcgcaaat actattgctt ccattgctgc 100  
 tgggtgtaata ttttttacag gctggtggat tatcatagat gcagntgtta 150  
 tttatccac catgaaagat ttcaaccant cataccatgc ctgtggtgtt 200  
 atagcaacca tagccttont aatgattaat gcagtatoga atggacaagt 250  
 ccgaggatgat agttacagtg aaggttggtt gggtaaaca ggtgctcgca 300  
 tttggctttt cggttggttc atgttggcct ttggatctct gattgcatct 350  
 atgtggattc tttttggagg ttatgttgct aaagaaaaag acatagtata 400  
 ccctggaatt gntgtatttt tccagaatgc cttcatcttt tttggagggc 450  
 tggtttttaa gtttggccgc actgaagant tatggcagtg 490

<210> 106  
 <211> 466  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 26, 38, 81, 115, 207, 329, 380, 446, 449  
 <223> unknown base

<400> 106  
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 ggaaaagcgc aatantattg ctttccattg ctgctggtgt actatttttt 150  
 acaggggtgg ggattatcat agatgcagct gttattttatc ccaccatgaa 200  
 agatttnaac cactcatacc atgcctgtgg tgttatagca accatagcct 250  
 tcctaataatg taatgcagta tcgaatggac aagtcagagg tgatagttac 300  
 agtgaagggt gtttgggtca aacaggtgnt cgcatttggc ttttcgttgg 350  
 tttcatgttg gcctttggat ttctgattgn attctatgag gattcttctt 400

ggaggttatg ttgctaaaga aaaagacata gtataccctg gaattnctnt 450  
 atttttccag aatgcc 466

<210> 107  
 <211> 377  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 52, 67, 70, 78, 105, 144, 150, 209, 266, 268, 282, 310, 331, 356  
 <223> unknown base

<400> 107  
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 antattgctt ccattgntgn tgggtanta tttttttaca ggctggtgga 100  
 ttatnataga tgcagctgtt atttatccca ccatgaaaga tttnaaccan 150  
 tcataccatg cctgtggtgt tatagcaacc atagccttcc taatgattaa 200  
 tgcagtatng aatggacaag tccgaggtga tagttacagt gaagggttgtt 250  
 tgggtcaaac aggtgntngc atttggcttt tngttggttt catgttggcc 300  
 tttggatctn tgattgcatt tatgtggatt ntttttggag gttatgttgc 350  
 taaagnaaaa gacatagtat accctgt 377

<210> 108  
 <211> 552  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 12, 25, 65, 130, 437, 537  
 <223> unknown base

<400> 108  
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 ggcccggcgc ggcngacac cgggttccgg gaaccattgc acgacggggt 100  
 ggactgacct gaaaaaaaaatg tttggatttn tagagggtt gagatgctca 150  
 gaatgcattg actgggggga aaagcgcaat actattgctt ccattgctgc 200  
 tgggtgacta ttttttacag gctggtggat tatcatagat gcagctgtta 250  
 tttatcccac catgaaagat ttcaaccact cataccatgc ctgtggtgtt 300  
 atagcaacca tagccttcct aatgattaat gcagtatoga atggacaagt 350  
 ccgaggtgat agttacagtg aaggttgtct ggggtcaaaca ggtgctcgca 400  
 tttggctttt cgttggtttc atgttgccct ttggatntct gattgcatct 450  
 atgtggattc tttttggagg ttatgttgct aaagaaaaag acatagtata 500  
 ccctggaatt gctgtatttt tccagaatgc ctatnttt tttggagggc 550

tg 552

<210> 109  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 109  
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<210> 110  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 110  
 tggttgctg tgggaaatca gatgtg 26

<210> 111  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 111  
 gtgtctggag gctgtggccg tttgttttc ttgggctaaa atcggg 46

<210> 112  
 <211> 3004  
 <212> DNA  
 <213> Homo sapiens

<400> 112  
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 ccgaatcctt tctccgaaga tgtcaaacgg cccccagcgc ccctggtaac 150  
 tgacaaggag gccaggaaga aggttctcaa acaagctttt tcagccaacc 200  
 aagtgccgga gaagctggat gtggtggtaa ttggcagtgg ctttgggggc 250  
 ctggctgcag ctgcaattct agctaaagct ggcaagcgag tcctggtgct 300  
 ggaacaacat accaaggcag ggggctgctg tcataccttt ggaaagaatg 350  
 gccttgaatt tgacacagga atccattaca ttgggcgtat ggaagagggc 400  
 agcattggcc gttttatctt ggaccagatc actgaagggc agctggactg 450  
 ggctcccctg tcctctcctt ttgacatcat ggtactggaa gggcccaatg 500  
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 cagttatgtc tttggtatca gacatacgaa aggtctcttt gtagttcgtg 2950  
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 aaaa 3004

<210> 113  
 <211> 610  
 <212> PRT  
 <213> Homo sapiens

<400> 113  
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 20 25 30  
 Asn Pro Phe Ser Glu Asp Val Lys Arg Pro Pro Ala Pro Leu Val  
 35 40 45  
 Thr Asp Lys Glu Ala Arg Lys Lys Val Leu Lys Gln Ala Phe Ser  
 50 55 60  
 Ala Asn Gln Val Pro Glu Lys Leu Asp Val Val Val Ile Gly Ser  
 65 70 75  
 Gly Phe Gly Gly Leu Ala Ala Ala Ala Ile Leu Ala Lys Ala Gly  
 80 85 90  
 Lys Arg Val Leu Val Leu Glu Gln His Thr Lys Ala Gly Gly Cys  
 95 100 105

Cys	His	Thr	Phe	Gly	Lys	Asn	Gly	Leu	Glu	Phe	Asp	Thr	Gly	Ile	110	115	120
His	Tyr	Ile	Gly	Arg	Met	Glu	Glu	Gly	Ser	Ile	Gly	Arg	Phe	Ile	125	130	135
Leu	Asp	Gln	Ile	Thr	Glu	Gly	Gln	Leu	Asp	Trp	Ala	Pro	Leu	Ser	140	145	150
Ser	Pro	Phe	Asp	Ile	Met	Val	Leu	Glu	Gly	Pro	Asn	Gly	Arg	Lys	155	160	165
Glu	Tyr	Pro	Met	Tyr	Ser	Gly	Glu	Lys	Ala	Tyr	Ile	Gln	Gly	Leu	170	175	180
Lys	Glu	Lys	Phe	Pro	Gln	Glu	Glu	Ala	Ile	Ile	Asp	Lys	Tyr	Ile	185	190	195
Lys	Leu	Val	Lys	Val	Val	Ser	Ser	Gly	Ala	Pro	His	Ala	Ile	Leu	200	205	210
Leu	Lys	Phe	Leu	Pro	Leu	Pro	Val	Val	Gln	Leu	Leu	Asp	Arg	Cys	215	220	225
Gly	Leu	Leu	Thr	Arg	Phe	Ser	Pro	Phe	Leu	Gln	Ala	Ser	Thr	Gln	230	235	240
Ser	Leu	Ala	Glu	Val	Leu	Gln	Gln	Leu	Gly	Ala	Ser	Ser	Glu	Leu	245	250	255
Gln	Ala	Val	Leu	Ser	Tyr	Ile	Phe	Pro	Thr	Tyr	Gly	Val	Thr	Pro	260	265	270
Asn	His	Ser	Ala	Phe	Ser	Met	His	Ala	Leu	Leu	Val	Asn	His	Tyr	275	280	285
Met	Lys	Gly	Gly	Phe	Tyr	Pro	Arg	Gly	Gly	Ser	Ser	Glu	Ile	Ala	290	295	300
Phe	His	Thr	Ile	Pro	Val	Ile	Gln	Arg	Ala	Gly	Gly	Ala	Val	Leu	305	310	315
Thr	Lys	Ala	Thr	Val	Gln	Ser	Val	Leu	Leu	Asp	Ser	Ala	Gly	Lys	320	325	330
Ala	Cys	Gly	Val	Ser	Val	Lys	Lys	Gly	His	Glu	Leu	Val	Asn	Ile	335	340	345
Tyr	Cys	Pro	Ile	Val	Val	Ser	Asn	Ala	Gly	Leu	Phe	Asn	Thr	Tyr	350	355	360
Glu	His	Leu	Leu	Pro	Gly	Asn	Ala	Arg	Cys	Leu	Pro	Gly	Val	Lys	365	370	375
Gln	Gln	Leu	Gly	Thr	Val	Arg	Pro	Gly	Leu	Gly	Met	Thr	Ser	Val	380	385	390
Phe	Ile	Cys	Leu	Arg	Gly	Thr	Lys	Glu	Asp	Leu	His	Leu	Pro	Ser	395	400	405
Thr	Asn	Tyr	Tyr	Val	Tyr	Tyr	Asp	Thr	Asp	Met	Asp	Gln	Ala	Met	410	415	420

Glu Arg Tyr Val	Ser Met Pro Arg Glu	Glu Ala Ala Glu His	Ile
425		430	435
Pro Leu Leu Phe	Phe Ala Phe Pro Ser	Ala Lys Asp Pro Thr	Trp
440		445	450
Glu Asp Arg Phe	Pro Gly Arg Ser Thr	Met Ile Met Leu Ile	Pro
455		460	465
Thr Ala Tyr Glu	Trp Phe Glu Glu Trp	Gln Ala Glu Leu Lys	Gly
470		475	480
Lys Arg Gly Ser	Asp Tyr Glu Thr Phe	Lys Asn Ser Phe Val	Glu
485		490	495
Ala Ser Met Ser	Val Val Leu Lys Leu	Phe Pro Gln Leu Glu	Gly
500		505	510
Lys Val Glu Ser	Val Thr Ala Gly Ser	Pro Leu Thr Asn Gln	Phe
515		520	525
Tyr Leu Ala Ala	Pro Arg Gly Ala Cys	Tyr Gly Ala Asp His	Asp
530		535	540
Leu Gly Arg Leu	His Pro Cys Val Met	Ala Ser Leu Arg Ala	Gln
545		550	555
Ser Pro Ile Pro	Asn Leu Tyr Leu Thr	Gly Gln Asp Ile Phe	Thr
560		565	570
Cys Gly Leu Val	Gly Ala Leu Gln Gly	Ala Leu Leu Cys Ser	Ser
575		580	585
Ala Ile Leu Lys	Arg Asn Leu Tyr Ser	Asp Leu Lys Asn Leu	Asp
590		595	600
Ser Arg Ile Arg	Ala Gln Lys Lys Lys	Asn	
605		610	

<210> 114  
 <211> 1701  
 <212> DNA  
 <213> Homo sapiens

<400> 114  
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 gatagggctg acgctgctgc tgtgtgcggt gctgctgagc ttggcctcgg 150  
 cgtcctcgga tgaagaaggc agccaggatg aatccttaga ttccaagact 200  
 actttgacat cagatgagtc agtaaaggac catactactg caggcagagt 250  
 agttgctggt caaatatttc ttgattcaga agaatctgaa ttagaatcct 300  
 ctattcaaga agaggaagac agcctcaaga gccaagaggg ggaaagtgtc 350  
 acagaagata tcagctttct agagtctcca aatccagaaa acaaggacta 400  
 tgaagagcca aagaaagtac ggaaaccagc ttgaccgcc attgaaggca 450

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a 1701

<210> 115  
<211> 301  
<212> PRT  
<213> Homo sapiens

<400> 115  
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Leu Ser Leu Ala Ser Ala Ser Ser Asp Glu Glu Gly Ser Gln Asp  
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Glu	Ser	Leu	Asp	Ser	Lys	Thr	Thr	Leu	Thr	Ser	Asp	Glu	Ser	Val
				35					40					45
Lys	Asp	His	Thr	Thr	Ala	Gly	Arg	Val	Val	Ala	Gly	Gln	Ile	Phe
				50					55					60
Leu	Asp	Ser	Glu	Glu	Ser	Glu	Leu	Glu	Ser	Ser	Ile	Gln	Glu	Glu
				65					70					75
Glu	Asp	Ser	Leu	Lys	Ser	Gln	Glu	Gly	Glu	Ser	Val	Thr	Glu	Asp
				80					85					90
Ile	Ser	Phe	Leu	Glu	Ser	Pro	Asn	Pro	Glu	Asn	Lys	Asp	Tyr	Glu
				95					100					105
Glu	Pro	Lys	Lys	Val	Arg	Lys	Pro	Ala	Leu	Thr	Ala	Ile	Glu	Gly
				110					115					120
Thr	Ala	His	Gly	Glu	Pro	Cys	His	Phe	Pro	Phe	Leu	Phe	Leu	Asp
				125					130					135
Lys	Glu	Tyr	Asp	Glu	Cys	Thr	Ser	Asp	Gly	Arg	Glu	Asp	Gly	Arg
				140					145					150
Leu	Trp	Cys	Ala	Thr	Thr	Tyr	Asp	Tyr	Lys	Ala	Asp	Glu	Lys	Trp
				155					160					165
Gly	Phe	Cys	Glu	Thr	Glu	Glu	Glu	Ala	Ala	Lys	Arg	Arg	Gln	Met
				170					175					180
Gln	Glu	Ala	Glu	Met	Met	Tyr	Gln	Thr	Gly	Met	Lys	Ile	Leu	Asn
				185					190					195
Gly	Ser	Asn	Lys	Lys	Ser	Gln	Lys	Arg	Glu	Ala	Tyr	Arg	Tyr	Leu
				200					205					210
Gln	Lys	Ala	Ala	Ser	Met	Asn	His	Thr	Lys	Ala	Leu	Glu	Arg	Val
				215					220					225
Ser	Tyr	Ala	Leu	Leu	Phe	Gly	Asp	Tyr	Leu	Pro	Gln	Asn	Ile	Gln
				230					235					240
Ala	Ala	Arg	Glu	Met	Phe	Glu	Lys	Leu	Thr	Glu	Glu	Gly	Ser	Pro
				245					250					255
Lys	Gly	Gln	Thr	Ala	Leu	Gly	Phe	Leu	Tyr	Ala	Ser	Gly	Leu	Gly
				260					265					270
Val	Asn	Ser	Ser	Gln	Ala	Lys	Ala	Leu	Val	Tyr	Tyr	Thr	Phe	Gly
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<210> 116  
 <211> 584  
 <212> DNA  
 <213> Homo sapiens  
 <400> 116

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<210> 117  
 <211> 123  
 <212> PRT  
 <213> Homo sapiens

<400> 117  
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                     20                    25                    30  
 Phe Pro Gly Gln Val Ala Gln Leu Ser Cys Thr Leu Ser Pro Gln  
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 His Val Thr Ile Arg Asp Tyr Gly Val Ser Trp Tyr Gln Gln Arg  
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 Ala Gly Ser Ala Pro Arg Tyr Leu Leu Tyr Tyr Arg Ser Glu Glu  
                     65                    70                    75  
 Asp His His Arg Pro Ala Asp Ile Pro Asp Arg Phe Ser Ala Ala  
                     80                    85                    90  
 Lys Asp Glu Ala His Asn Ala Cys Val Leu Thr Ile Ser Pro Val  
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<210> 118  
 <211> 3402  
 <212> DNA  
 <213> Homo sapiens

<400> 118

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<210> 119  
 <211> 504  
 <212> PRT  
 <213> Homo sapiens

<400> 119  
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 35 40 45  
 Thr Val Arg Leu Gln Cys Pro Val Glu Gly Asp Pro Pro Pro Leu  
 50 55 60  
 Thr Met Trp Thr Lys Asp Gly Arg Thr Ile His Ser Gly Trp Ser  
 65 70 75  
 Arg Phe Arg Val Leu Pro Gln Gly Leu Lys Val Lys Gln Val Glu  
 80 85 90  
 Arg Glu Asp Ala Gly Val Tyr Val Cys Lys Ala Thr Asn Gly Phe  
 95 100 105  
 Gly Ser Leu Ser Val Asn Tyr Thr Leu Val Val Leu Asp Asp Ile  
 110 115 120  
 Ser Pro Gly Lys Glu Ser Leu Gly Pro Asp Ser Ser Ser Gly Gly  
 125 130 135  
 Gln Glu Asp Pro Ala Ser Gln Gln Trp Ala Arg Pro Arg Phe Thr  
 140 145 150  
 Gln Pro Ser Lys Met Arg Arg Arg Val Ile Ala Arg Pro Val Gly  
 155 160 165  
 Ser Ser Val Arg Leu Lys Cys Val Ala Ser Gly His Pro Arg Pro  
 170 175 180  
 Asp Ile Thr Trp Met Lys Asp Asp Gln Ala Leu Thr Arg Pro Glu  
 185 190 195  
 Ala Ala Glu Pro Arg Lys Lys Lys Trp Thr Leu Ser Leu Lys Asn  
 200 205 210  
 Leu Arg Pro Glu Asp Ser Gly Lys Tyr Thr Cys Arg Val Ser Asn  
 215 220 225  
 Arg Ala Gly Ala Ile Asn Ala Thr Tyr Lys Val Asp Val Ile Gln  
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Arg	Thr	Arg	Ser	Lys	Pro	Val	Leu	Thr	Gly	Thr	His	Pro	Val	Asn	245	250	255
Thr	Thr	Val	Asp	Phe	Gly	Gly	Thr	Thr	Ser	Phe	Gln	Cys	Lys	Val	260	265	270
Arg	Ser	Asp	Val	Lys	Pro	Val	Ile	Gln	Trp	Leu	Lys	Arg	Val	Glu	275	280	285
Tyr	Gly	Ala	Glu	Gly	Arg	His	Asn	Ser	Thr	Ile	Asp	Val	Gly	Gly	290	295	300
Gln	Lys	Phe	Val	Val	Leu	Pro	Thr	Gly	Asp	Val	Trp	Ser	Arg	Pro	305	310	315
Asp	Gly	Ser	Tyr	Leu	Asn	Lys	Leu	Leu	Ile	Thr	Arg	Ala	Arg	Gln	320	325	330
Asp	Asp	Ala	Gly	Met	Tyr	Ile	Cys	Leu	Gly	Ala	Asn	Thr	Met	Gly	335	340	345
Tyr	Ser	Phe	Arg	Ser	Ala	Phe	Leu	Thr	Val	Leu	Pro	Asp	Pro	Lys	350	355	360
Pro	Pro	Gly	Pro	Pro	Val	Ala	Ser	Ser	Ser	Ser	Ala	Thr	Ser	Leu	365	370	375
Pro	Trp	Pro	Val	Val	Ile	Gly	Ile	Pro	Ala	Gly	Ala	Val	Phe	Ile	380	385	390
Leu	Gly	Thr	Leu	Leu	Leu	Trp	Leu	Cys	Gln	Ala	Gln	Lys	Lys	Pro	395	400	405
Cys	Thr	Pro	Ala	Pro	Ala	Pro	Pro	Leu	Pro	Gly	His	Arg	Pro	Pro	410	415	420
Gly	Thr	Ala	Arg	Asp	Arg	Ser	Gly	Asp	Lys	Asp	Leu	Pro	Ser	Leu	425	430	435
Ala	Ala	Leu	Ser	Ala	Gly	Pro	Gly	Val	Gly	Leu	Cys	Glu	Glu	His	440	445	450
Gly	Ser	Pro	Ala	Ala	Pro	Gln	His	Leu	Leu	Gly	Pro	Gly	Pro	Val	455	460	465
Ala	Gly	Pro	Lys	Leu	Tyr	Pro	Lys	Leu	Tyr	Thr	Asp	Ile	His	Thr	470	475	480
His	Thr	His	Thr	His	Ser	His	Thr	His	Ser	His	Val	Glu	Gly	Lys	485	490	495
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<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 120

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<210> 121

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 121

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<400> 122

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<210> 123

<211> 4420

<212> DNA

<213> Homo sapiens

<400> 123

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 atcatagttc ctctaccaag tctggaaaga acatctcctg gtatccacaa 4300  
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 <211> 1184  
 <212> PRT  
 <213> Homo sapiens

<400> 124  
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 Val Thr Ser Val Leu Gly Arg Gln Thr Met Leu Thr Gln Ser Val  
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 35 40 45  
 Pro Ala Asp Thr Leu Glu Ser Pro Gly Glu Trp Thr Thr Trp Phe  
 50 55 60  
 Asn Ile Asp Tyr Pro Gly Gly Lys Gly Asp Tyr Glu Arg Leu Asp  
 65 70 75  
 Ala Ile Arg Phe Tyr Tyr Gly Asp Arg Val Cys Ala Arg Pro Leu  
 80 85 90  
 Arg Leu Glu Ala Arg Thr Thr Asp Trp Thr Pro Ala Gly Ser Thr  
 95 100 105  
 Gly Gln Val Val His Gly Ser Pro Arg Glu Gly Phe Trp Cys Leu  
 110 115 120  
 Asn Arg Glu Gln Arg Pro Gly Gln Asn Cys Ser Asn Tyr Thr Val  
 125 130 135  
 Arg Phe Leu Cys Pro Pro Gly Ser Leu Arg Arg Asp Thr Glu Arg  
 140 145 150  
 Ile Trp Ser Pro Trp Ser Pro Trp Ser Lys Cys Ser Ala Ala Cys  
 155 160 165  
 Gly Gln Thr Gly Val Gln Thr Arg Thr Arg Ile Cys Leu Ala Glu  
 170 175 180  
 Met Val Ser Leu Cys Ser Glu Ala Ser Glu Glu Gly Gln His Cys  
 185 190 195  
 Met Gly Gln Asp Cys Thr Ala Cys Asp Leu Thr Cys Pro Met Gly  
 200 205 210

Gln	Val	Asn	Ala	Asp	Cys	Asp	Ala	Cys	Met	Cys	Gln	Asp	Phe	Met	215	220	225
Leu	His	Gly	Ala	Val	Ser	Leu	Pro	Gly	Gly	Ala	Pro	Ala	Ser	Gly	230	235	240
Ala	Ala	Ile	Tyr	Leu	Leu	Thr	Lys	Thr	Pro	Lys	Leu	Leu	Thr	Gln	245	250	255
Thr	Asp	Ser	Asp	Gly	Arg	Phe	Arg	Ile	Pro	Gly	Leu	Cys	Pro	Asp	260	265	270
Gly	Lys	Ser	Ile	Leu	Lys	Ile	Thr	Lys	Val	Lys	Phe	Ala	Pro	Ile	275	280	285
Val	Leu	Thr	Met	Pro	Lys	Thr	Ser	Leu	Lys	Ala	Ala	Thr	Ile	Lys	290	295	300
Ala	Glu	Phe	Val	Arg	Ala	Glu	Thr	Pro	Tyr	Met	Val	Met	Asn	Pro	305	310	315
Glu	Thr	Lys	Ala	Arg	Arg	Ala	Gly	Gln	Ser	Val	Ser	Leu	Cys	Cys	320	325	330
Lys	Ala	Thr	Gly	Lys	Pro	Arg	Pro	Asp	Lys	Tyr	Phe	Trp	Tyr	His	335	340	345
Asn	Asp	Thr	Leu	Leu	Asp	Pro	Ser	Leu	Tyr	Lys	His	Glu	Ser	Lys	350	355	360
Leu	Val	Leu	Arg	Lys	Leu	Gln	Gln	His	Gln	Ala	Gly	Glu	Tyr	Phe	365	370	375
Cys	Lys	Ala	Gln	Ser	Asp	Ala	Gly	Ala	Val	Lys	Ser	Lys	Val	Ala	380	385	390
Gln	Leu	Ile	Val	Thr	Ala	Ser	Asp	Glu	Thr	Pro	Cys	Asn	Pro	Val	395	400	405
Pro	Glu	Ser	Tyr	Leu	Ile	Arg	Leu	Pro	His	Asp	Cys	Phe	Gln	Asn	410	415	420
Ala	Thr	Asn	Ser	Phe	Tyr	Tyr	Asp	Val	Gly	Arg	Cys	Pro	Val	Lys	425	430	435
Thr	Cys	Ala	Gly	Gln	Gln	Asp	Asn	Gly	Ile	Arg	Cys	Arg	Asp	Ala	440	445	450
Val	Gln	Asn	Cys	Cys	Gly	Ile	Ser	Lys	Thr	Glu	Glu	Arg	Glu	Ile	455	460	465
Gln	Cys	Ser	Gly	Tyr	Thr	Leu	Pro	Thr	Lys	Val	Ala	Lys	Glu	Cys	470	475	480
Ser	Cys	Gln	Arg	Cys	Thr	Glu	Thr	Arg	Ser	Ile	Val	Arg	Gly	Arg	485	490	495
Val	Ser	Ala	Ala	Asp	Asn	Gly	Glu	Pro	Met	Arg	Phe	Gly	His	Val	500	505	510
Tyr	Met	Gly	Asn	Ser	Arg	Val	Ser	Met	Thr	Gly	Tyr	Lys	Gly	Thr	515	520	525

Phe Thr Leu His	Val	Pro	Gln	Asp	Thr	Glu	Arg	Leu	Val	Leu	Thr
	530					535					540
Phe Val Asp Arg	Leu	Gln	Lys	Phe	Val	Asn	Thr	Thr	Lys	Val	Leu
	545					550					555
Pro Phe Asn Lys	Lys	Gly	Ser	Ala	Val	Phe	His	Glu	Ile	Lys	Met
	560					565					570
Leu Arg Arg Lys	Glu	Pro	Ile	Thr	Leu	Glu	Ala	Met	Glu	Thr	Asn
	575					580					585
Ile Ile Pro Leu	Gly	Glu	Val	Val	Gly	Glu	Asp	Pro	Met	Ala	Glu
	590					595					600
Leu Glu Ile Pro	Ser	Arg	Ser	Phe	Tyr	Arg	Gln	Asn	Gly	Glu	Pro
	605					610					615
Tyr Ile Gly Lys	Val	Lys	Ala	Ser	Val	Thr	Phe	Leu	Asp	Pro	Arg
	620					625					630
Asn Ile Ser Thr	Ala	Thr	Ala	Ala	Gln	Thr	Asp	Leu	Asn	Phe	Ile
	635					640					645
Asn Asp Glu Gly	Asp	Thr	Phe	Pro	Leu	Arg	Thr	Tyr	Gly	Met	Phe
	650					655					660
Ser Val Asp Phe	Arg	Asp	Glu	Val	Thr	Ser	Glu	Pro	Leu	Asn	Ala
	665					670					675
Gly Lys Val Lys	Val	His	Leu	Asp	Ser	Thr	Gln	Val	Lys	Met	Pro
	680					685					690
Glu His Ile Ser	Thr	Val	Lys	Leu	Trp	Ser	Leu	Asn	Pro	Asp	Thr
	695					700					705
Gly Leu Trp Glu	Glu	Glu	Gly	Asp	Phe	Lys	Phe	Glu	Asn	Gln	Arg
	710					715					720
Arg Asn Lys Arg	Glu	Asp	Arg	Thr	Phe	Leu	Val	Gly	Asn	Leu	Glu
	725					730					735
Ile Arg Glu Arg	Arg	Leu	Phe	Asn	Leu	Asp	Val	Pro	Glu	Ser	Arg
	740					745					750
Arg Cys Phe Val	Lys	Val	Arg	Ala	Tyr	Arg	Ser	Glu	Arg	Phe	Leu
	755					760					765
Pro Ser Glu Gln	Ile	Gln	Gly	Val	Val	Ile	Ser	Val	Ile	Asn	Leu
	770					775					780
Glu Pro Arg Thr	Gly	Phe	Leu	Ser	Asn	Pro	Arg	Ala	Trp	Gly	Arg
	785					790					795
Phe Asp Ser Val	Ile	Thr	Gly	Pro	Asn	Gly	Ala	Cys	Val	Pro	Ala
	800					805					810
Phe Cys Asp Asp	Gln	Ser	Pro	Asp	Ala	Tyr	Ser	Ala	Tyr	Val	Leu
	815					820					825
Ala Ser Leu Ala	Gly	Glu	Glu	Leu	Gln	Ala	Val	Glu	Ser	Ser	Pro
	830					835					840

Lys	Phe	Asn	Pro	Asn	Ala	Ile	Gly	Val	Pro	Gln	Pro	Tyr	Leu	Asn	
				845					850					855	
Lys	Leu	Asn	Tyr	Arg	Arg	Thr	Asp	His	Glu	Asp	Pro	Arg	Val	Lys	
				860					865					870	
Lys	Thr	Ala	Phe	Gln	Ile	Ser	Met	Ala	Lys	Pro	Arg	Pro	Asn	Ser	
				875					880					885	
Ala	Glu	Glu	Ser	Asn	Gly	Pro	Ile	Tyr	Ala	Phe	Glu	Asn	Leu	Arg	
				890					895					900	
Ala	Cys	Glu	Glu	Ala	Pro	Pro	Ser	Ala	Ala	His	Phe	Arg	Phe	Tyr	
				905					910					915	
Gln	Ile	Glu	Gly	Asp	Arg	Tyr	Asp	Tyr	Asn	Thr	Val	Pro	Phe	Asn	
				920					925					930	
Glu	Asp	Asp	Pro	Met	Ser	Trp	Thr	Glu	Asp	Tyr	Leu	Ala	Trp	Trp	
				935					940					945	
Pro	Lys	Pro	Met	Glu	Phe	Arg	Ala	Cys	Tyr	Ile	Lys	Val	Lys	Ile	
				950					955					960	
Val	Gly	Pro	Leu	Glu	Val	Asn	Val	Arg	Ser	Arg	Asn	Met	Gly	Gly	
				965					970					975	
Thr	His	Arg	Arg	Thr	Val	Gly	Lys	Leu	Tyr	Gly	Ile	Arg	Asp	Val	
				980					985					990	
Arg	Ser	Thr	Arg	Asp	Arg	Asp	Gln	Pro	Asn	Val	Ser	Ala	Ala	Cys	
				995					1000					1005	
Leu	Glu	Phe	Lys	Cys	Ser	Gly	Met	Leu	Tyr	Asp	Gln	Asp	Arg	Val	
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Asp	Arg	Thr	Leu	Val	Lys	Val	Ile	Pro	Gln	Gly	Ser	Cys	Arg	Arg	
				1025					1030					1035	
Ala	Ser	Val	Asn	Pro	Met	Leu	His	Glu	Tyr	Leu	Val	Asn	His	Leu	
				1040					1045					1050	
Pro	Leu	Ala	Val	Asn	Asn	Asp	Thr	Ser	Glu	Tyr	Thr	Met	Leu	Ala	
				1055					1060					1065	
Pro	Leu	Asp	Pro	Leu	Gly	His	Asn	Tyr	Gly	Ile	Tyr	Thr	Val	Thr	
				1070					1075					1080	
Asp	Gln	Asp	Pro	Arg	Thr	Ala	Lys	Glu	Ile	Ala	Leu	Gly	Arg	Cys	
				1085					1090					1095	
Phe	Asp	Gly	Thr	Ser	Asp	Gly	Ser	Ser	Arg	Ile	Met	Lys	Ser	Asn	
				1100					1105					1110	
Val	Gly	Val	Ala	Leu	Thr	Phe	Asn	Cys	Val	Glu	Arg	Gln	Val	Gly	
				1115					1120					1125	
Arg	Gln	Ser	Ala	Phe	Gln	Tyr	Leu	Gln	Ser	Thr	Pro	Ala	Gln	Ser	
				1130					1135					1140	
Pro	Ala	Ala	Gly	Thr	Val	Gln	Gly	Arg	Val	Pro	Ser	Arg	Arg	Gln	
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Gln Arg Ala Ser Arg Gly Gly Gln Arg Gln Gly Gly Val Val Ala  
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Ser Leu Arg Phe Pro Arg Val Ala Gln Gln Pro Leu Ile Asn  
 1175 1180

<210> 125  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 125  
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<210> 126  
 <211> 23  
 <212> DNA  
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<220>  
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<400> 126  
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<210> 127  
 <211> 40  
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<220>  
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<210> 128  
 <211> 2819  
 <212> DNA  
 <213> Homo sapiens

<400> 128  
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 ctacctaccc gtacgcatac atacatatgt gtatatatat gtaaactaga 200  
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 gattacatgg cctgccagcc ggaatccacg gacatgacaa aatatctgaa 450

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 aacaagtgtataaagattcc accaaaggac attctaaatg ttttcttgtt 2550  
 gctttaacac tggaagattt aaagaataaa aactcctgca taaacgattt 2600  
 caggaatttg tattgcaatt tcttaagatg aaaggaacag ccaccaagca 2650  
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 aaaaaaaaaa aaaaaaaaaa 2819

<210> 129

<211> 438

<212> PRT

<213> Homo sapiens

<400> 129

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Val	Ser	Ser	Val	Met	Gln	Pro	Tyr	Pro	Leu	Val	Trp	Gly	His	Tyr
				20					25					30

Asp	Leu	Cys	Lys	Thr	Gln	Ile	Tyr	Thr	Glu	Glu	Gly	Lys	Val	Trp
				35					40					45

Asp	Tyr	Met	Ala	Cys	Gln	Pro	Glu	Ser	Thr	Asp	Met	Thr	Lys	Tyr
				50					55					60

Leu	Lys	Val	Lys	Leu	Asp	Pro	Pro	Asp	Ile	Thr	Cys	Gly	Asp	Pro
				65					70					75

Pro	Glu	Thr	Phe	Cys	Ala	Met	Gly	Asn	Pro	Tyr	Met	Cys	Asn	Asn
				80					85					90

Glu	Cys	Asp	Ala	Ser	Thr	Pro	Glu	Leu	Ala	His	Pro	Pro	Glu	Leu
				95					100					105

Met	Phe	Asp	Phe	Glu	Gly	Arg	His	Pro	Ser	Thr	Phe	Trp	Gln	Ser
				110					115					120

Ala	Thr	Trp	Lys	Glu	Tyr	Pro	Lys	Pro	Leu	Gln	Val	Asn	Ile	Thr
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	125		130		135
Leu Ser Trp Ser	Lys Thr Ile Glu Leu	Thr Asp Asn Ile Val	Ile		
	140		145		150
Thr Phe Glu Ser	Gly Arg Pro Asp Gln	Met Ile Leu Glu Lys	Ser		
	155		160		165
Leu Asp Tyr Gly	Arg Thr Trp Gln Pro	Tyr Gln Tyr Tyr Ala	Thr		
	170		175		180
Asp Cys Leu Asp	Ala Phe His Met Asp	Pro Lys Ser Val Lys	Asp		
	185		190		195
Leu Ser Gln His	Thr Val Leu Glu Ile	Ile Cys Thr Glu Glu	Tyr		
	200		205		210
Ser Thr Gly Tyr	Thr Thr Asn Ser Lys	Ile Ile His Phe Glu	Ile		
	215		220		225
Lys Asp Arg Phe	Ala Leu Phe Ala Gly	Pro Arg Leu Arg Asn	Met		
	230		235		240
Ala Ser Leu Tyr	Gly Gln Leu Asp Thr	Thr Lys Lys Leu Arg	Asp		
	245		250		255
Phe Phe Thr Val	Thr Asp Leu Arg Ile	Arg Leu Leu Arg Pro	Ala		
	260		265		270
Val Gly Glu Ile	Phe Val Asp Glu Leu	His Leu Ala Arg Tyr	Phe		
	275		280		285
Tyr Ala Ile Ser	Asp Ile Lys Val Arg	Gly Arg Cys Lys Cys	Asn		
	290		295		300
Leu His Ala Thr	Val Cys Val Tyr Asp	Asn Ser Lys Leu Thr	Cys		
	305		310		315
Glu Cys Glu His	Asn Thr Thr Gly Pro	Asp Cys Gly Lys Cys	Lys		
	320		325		330
Lys Asn Tyr Gln	Gly Arg Pro Trp Ser	Pro Gly Ser Tyr Leu	Pro		
	335		340		345
Ile Pro Lys Gly	Thr Ala Asn Thr Cys	Ile Pro Ser Ile Ser	Ser		
	350		355		360
Ile Gly Thr Asn	Val Cys Asp Asn Glu	Leu Leu His Cys Gln	Asn		
	365		370		375
Gly Gly Thr Cys	His Asn Asn Val Arg	Cys Leu Cys Pro Ala	Ala		
	380		385		390
Tyr Thr Gly Ile	Leu Cys Glu Lys Leu	Arg Cys Glu Glu Ala	Gly		
	395		400		405
Ser Cys Gly Ser	Asp Ser Gly Gln Gly	Ala Pro Pro His Gly	Thr		
	410		415		420
Pro Ala Leu Leu	Leu Leu Thr Thr Leu	Leu Gly Thr Ala Ser	Pro		
	425		430		435
Leu Val Phe					

<210> 130  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 130  
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<210> 131  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 131  
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<210> 132  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 132  
 aggttcaggg acagcaagtt tggg 24

<210> 133  
 <211> 50  
 <212> DNA  
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<220>  
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<400> 133  
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<210> 134  
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 <212> DNA  
 <213> Homo sapiens

<400> 134  
 cccacgcgtc cgggtgacct gggccgagcc ctcccggctcg gctaagattg 50  
 ctgaggaggc ggcgggtagc tggcaggcgc cgacttccga aggccgccgt 100  
 ccgggcgagg tgtcctcatg acttctcttg tggaccatgt ccgtgatctt 150  
 ttttgctgac gtggtagcgg taagggatgg actgcccctc tcagcctcta 200  
 ctgatttttta ccacacccaa gatttttttg aatggaggag acggctcaag 250  
 agtttagcct tgcgactggc ccagtatcca ggctcaggtt ctgcagaagg 300

ttgtgacttt agtatacatt tttcttcttt cggggacgtg gcctgcatgg 350  
ctatctgctc ctgccagtgt ccagcagcca tggccttctg cttcctggag 400  
accctgtggt ggggaattcac agcttcctat gacactacct gcattggcct 450  
agcctccagg ccatacgctt ttcttgagtt tgacagcatc attcagaaag 500  
tgaagtggca ttttaactat gtaagttcct ctcagatgga gtgcagcttg 550  
gaaaaaattc aggaggagct caagttgcag cctccagcgg ttctcactct 600  
ggaggacaca gatgtggcaa atgggggtgat gaatgggtcac acaccgatgc 650  
acttgagacc tgctcctaatt ttccgaatgg aaccagtgc agccctgggt 700  
atcctctccc tcattctcaa catcatgtgt gctgccctga atctcattcg 750  
aggagttcac cttgcagaac attctttaca ggatccaagg agctggttct 800  
gctggttga ccaaacctcg tgagccagcc acccctgacc caaatgagga 850  
gagctctgat tctcccatcc gggagcagtg atgtcaaact tctgctgctg 900  
gggaaatctc atcagcaggg agcctgtgga aaagggcatg tcagtgaaat 950  
ctgggaatgg ctggattcgg aaacatctgc ccatgtgtat tgatggcaga 1000  
gctgttgccc acaagcgctt tttatttagg gtaaaattaa caaatccatt 1050  
ctattcctct gacctatgct tagtacatat gacctttaac ccttacattt 1100  
atatgattct ggggttgctt cagaagtgtt atttcatgaa tcattcatat 1150  
gatttgatcc cccaggattc tattttgttt aatgggcttt tctactaaaa 1200  
gcataaaata ctgaggctga tttagtcagg gcaaaacat ttactttaca 1250  
tattcgtttt caatacttgc tgttcatgtt acacaagctt cttacggttt 1300  
tcttgtaaca ataaatat ttagtaaaata atgggtacat ttttaacaaac 1350  
tcagtagtac aacctaaact tgtataaaag tgtgtaaaaa tgtatagcca 1400  
tttatatcct atgtataaat taaatgaggt ggcttcagaa atggcagaat 1450  
aaatctaaag tgtttattaa aaaaaaaaaa aaaaaaaaaa aag 1493

<210> 135  
<211> 228  
<212> PRT  
<213> Homo sapiens

<400> 135  
Met Ser Val Ile Phe Phe Ala Cys Val Val Arg Val Arg Asp Gly  
1 5 10 15  
Leu Pro Leu Ser Ala Ser Thr Asp Phe Tyr His Thr Gln Asp Phe  
20 25 30  
Leu Glu Trp Arg Arg Arg Leu Lys Ser Leu Ala Leu Arg Leu Ala  
35 40 45

Gln	Tyr	Pro	Gly	Arg	Gly	Ser	Ala	Glu	Gly	Cys	Asp	Phe	Ser	Ile	
				50					55					60	
His	Phe	Ser	Ser	Phe	Gly	Asp	Val	Ala	Cys	Met	Ala	Ile	Cys	Ser	
				65					70					75	
Cys	Gln	Cys	Pro	Ala	Ala	Met	Ala	Phe	Cys	Phe	Leu	Glu	Thr	Leu	
				80					85					90	
Trp	Trp	Glu	Phe	Thr	Ala	Ser	Tyr	Asp	Thr	Thr	Cys	Ile	Gly	Leu	
				95					100					105	
Ala	Ser	Arg	Pro	Tyr	Ala	Phe	Leu	Glu	Phe	Asp	Ser	Ile	Ile	Gln	
				110					115					120	
Lys	Val	Lys	Trp	His	Phe	Asn	Tyr	Val	Ser	Ser	Ser	Gln	Met	Glu	
				125					130					135	
Cys	Ser	Leu	Glu	Lys	Ile	Gln	Glu	Glu	Leu	Lys	Leu	Gln	Pro	Pro	
				140					145					150	
Ala	Val	Leu	Thr	Leu	Glu	Asp	Thr	Asp	Val	Ala	Asn	Gly	Val	Met	
				155					160					165	
Asn	Gly	His	Thr	Pro	Met	His	Leu	Glu	Pro	Ala	Pro	Asn	Phe	Arg	
				170					175					180	
Met	Glu	Pro	Val	Thr	Ala	Leu	Gly	Ile	Leu	Ser	Leu	Ile	Leu	Asn	
				185					190					195	
Ile	Met	Cys	Ala	Ala	Leu	Asn	Leu	Ile	Arg	Gly	Val	His	Leu	Ala	
				200					205					210	
Glu	His	Ser	Leu	Gln	Asp	Pro	Arg	Ser	Trp	Phe	Cys	Trp	Leu	Asp	
				215					220					225	
Gln	Thr	Ser													

<210> 136  
 <211> 239  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 39, 61, 143, 209  
 <223> unknown base

<400> 136  
 tgcttcctgg agaccctgtg gtgggaattc acagcttcnt atgacactac 50  
 ctgcattggc ntacgctcca ggccatacgc ttttcttgag tttgacagca 100  
 tcattcagaa agtgaagtgg cattttaact atgtaagttc ctntcagatg 150  
 gagtgcagct tggaaaaaat tcaggaggag ctcaagttgc agcctccagc 200  
 ggttctcant atggaggaca cagatgtggc aaatgggggt 239

<210> 137  
 <211> 2300  
 <212> DNA

<213> Homo sapiens

<400> 137

ctcagcggcg cttcctcgta gcgagcctag tggcgggtgt ttgcattgaa 50  
acgtgagcgc gacccgacct taaagagtgg ggagcaaagg gaggacagag 100  
ccctttaaaa cgaggcgggt ggtgcctgcc cctttaaggg cggggcgctcc 150  
ggacgactgt atctgagccc cagactgccc cgagtttctg tcgcaggctg 200  
cgaggaaagg ccctaggtt gggctctgggt gcttggcggc ggcggcttcc 250  
tccccgctcg tcttccccgg gccagaggc acctcggtt cagtcatgct 300  
gagcagagta tggaagcacc tgactacgaa gtgctatccg tgcgagaaca 350  
gctattccac gagaggatcc gcgagtgtat tatatcaaca cttctgtttg 400  
caacactgta catcctctgc cacatcttcc tgaccogctt caagaagcct 450  
gctgagttca ccacagtgga tgatgaagat gccacogtca acaagattgc 500  
gctcgagctg tgcaccttta ccctggcaat tgccttgggt gctgtcctgc 550  
tcttgccctt ctccatcatc agcaatgagg tgctgtcttc cctgcctcgg 600  
aactactaca tccagtggct caacggctcc ctcatccatg gcctctggaa 650  
ccttggtttt ctcttcccca acctgtccct catcttcttc atgccctttg 700  
catatttctt cactgagtct gagggctttg ctgggtccag aaaggggtgc 750  
ctgggcccggg tctatgagac agtggtgatg ttgatgctcc tctactctgt 800  
ggtgctaggt atggtgtggg tggcatcagc cattgtggac aagaacaagg 850  
ccaacagaga gtcactctat gacttttggg agtactatct cccctacctc 900  
tactcatgca tctccttcc tggggttctg ctgctcctgg tgtgtactcc 950  
actgggtctc gcccgcatgt tctccgtcac tgggaagctg ctagtcaagc 1000  
cccggctgct ggaagacctg gaggagcagc tgtactgctc agcctttgag 1050  
gaggcagccc tgaccgcgag gatctgtaat cctacttcc tctggctgcc 1100  
tttagacatg gagctgctac acagacaggt cctggctctg cagacacaga 1150  
gggtcctgct ggagaagagg cggaaggctt cagcctggca acggaacctg 1200  
ggctaccccc tggtatgct gtgcttgctg gtgctgacgg gcctgtctgt 1250  
gtcattgtg gccatccaca tctggagct gctcatcgat gaggctgcca 1300  
tgccccgagg catgcagggt acctccttag gccaggctct cttctccaag 1350  
ctgggctcct ttggtgcctt cattcagggt gtactcatct ttacctaata 1400  
gggtgtcctca gttgtgggct tctatagctc tccactcttc cggagcctgc 1450  
ggcccagatg gcacgacact gccatgacgc agataattgg gaactgtgtc 1500

tgtctcctgg tctaagctc agcaattcct gtcttctctc gaaccctggg 1550  
gctcactcgc tttgacctgc tgggtgactt tggacgcttc aactggctgg 1600  
gcaatttcta cattgtgttc ctctacaacg cagcctttgc aggcctcacc 1650  
acactctgtc tggatgaagac cttcactgca gctgtgcggg cagagctgat 1700  
ccgggccttt gggctggaca gactgccgct gcccgctctcc gggttcccc 1750  
aggcatctag gaagaccag caccagtgc ctcagctgg gggtaggaag 1800  
gaaaaaactg gacactgcca tctgctgcct aggcctggag ggaagccaa 1850  
ggctacttgg acctcaggac ctggaatctg agaggggtggg tggcagaggg 1900  
gagcagagcc atctgcacta ttgcataatc tgagccagag tttgggacca 1950  
ggacctcctg cttttccata cttactgtg gcctcagcat gggtagggc 2000  
tgggtgactg ggtctagccc ctgatccaa atctgtttac acatcaatct 2050  
gcctcactgc tgttctgggc catccccata gccatgttta catgatttga 2100  
tgtgcaatag ggtggggtag gggcaggaa aggactgggc cagggcaggc 2150  
tcgggagata gattgtctcc cttgcctctg gccagcaga gcctaagcac 2200  
tgtctatcc tggaggggct ttggaccacc tgaaagacca aggggatagg 2250  
gaggaggagg cttcagccat cagcaataaa gttgatcca gggaaaaaa 2300

<210> 138  
<211> 489  
<212> PRT  
<213> Homo sapiens

<400> 138  
Met Glu Ala Pro Asp Tyr Glu Val Leu Ser Val Arg Glu Gln Leu  
1 5 10 15  
Phe His Glu Arg Ile Arg Glu Cys Ile Ile Ser Thr Leu Leu Phe  
20 25 30  
Ala Thr Leu Tyr Ile Leu Cys His Ile Phe Leu Thr Arg Phe Lys  
35 40 45  
Lys Pro Ala Glu Phe Thr Thr Val Asp Asp Glu Asp Ala Thr Val  
50 55 60  
Asn Lys Ile Ala Leu Glu Leu Cys Thr Phe Thr Leu Ala Ile Ala  
65 70 75  
Leu Gly Ala Val Leu Leu Leu Pro Phe Ser Ile Ile Ser Asn Glu  
80 85 90  
Val Leu Leu Ser Leu Pro Arg Asn Tyr Tyr Ile Gln Trp Leu Asn  
95 100 105  
Gly Ser Leu Ile His Gly Leu Trp Asn Leu Val Phe Leu Phe Pro  
110 115 120  
Asn Leu Ser Leu Ile Phe Leu Met Pro Phe Ala Tyr Phe Phe Thr

	125	130	135
Glu Ser Glu Gly	Phe Ala Gly Ser Arg	Lys Gly Val Leu Gly Arg	
	140	145	150
Val Tyr Glu Thr	Val Val Met Leu Met	Leu Leu Thr Leu Leu Val	
	155	160	165
Leu Gly Met Val	Trp Val Ala Ser Ala	Ile Val Asp Lys Asn Lys	
	170	175	180
Ala Asn Arg Glu	Ser Leu Tyr Asp Phe	Trp Glu Tyr Tyr Leu Pro	
	185	190	195
Tyr Leu Tyr Ser	Cys Ile Ser Phe Leu	Gly Val Leu Leu Leu Leu	
	200	205	210
Val Cys Thr Pro	Leu Gly Leu Ala Arg	Met Phe Ser Val Thr Gly	
	215	220	225
Lys Leu Leu Val	Lys Pro Arg Leu Leu	Glu Asp Leu Glu Glu Gln	
	230	235	240
Leu Tyr Cys Ser	Ala Phe Glu Glu Ala	Ala Leu Thr Arg Arg Ile	
	245	250	255
Cys Asn Pro Thr	Ser Cys Trp Leu Pro	Leu Asp Met Glu Leu Leu	
	260	265	270
His Arg Gln Val	Leu Ala Leu Gln Thr	Gln Arg Val Leu Leu Glu	
	275	280	285
Lys Arg Arg Lys	Ala Ser Ala Trp Gln	Arg Asn Leu Gly Tyr Pro	
	290	295	300
Leu Ala Met Leu	Cys Leu Leu Val Leu	Thr Gly Leu Ser Val Leu	
	305	310	315
Ile Val Ala Ile	His Ile Leu Glu Leu	Leu Ile Asp Glu Ala Ala	
	320	325	330
Met Pro Arg Gly	Met Gln Gly Thr Ser	Leu Gly Gln Val Ser Phe	
	335	340	345
Ser Lys Leu Gly	Ser Phe Gly Ala Val	Ile Gln Val Val Leu Ile	
	350	355	360
Phe Tyr Leu Met	Val Ser Ser Val Val	Gly Phe Tyr Ser Ser Pro	
	365	370	375
Leu Phe Arg Ser	Leu Arg Pro Arg Trp	His Asp Thr Ala Met Thr	
	380	385	390
Gln Ile Ile Gly	Asn Cys Val Cys Leu	Leu Val Leu Ser Ser Ala	
	395	400	405
Leu Pro Val Phe	Ser Arg Thr Leu Gly	Leu Thr Arg Phe Asp Leu	
	410	415	420
Leu Gly Asp Phe	Gly Arg Phe Asn Trp	Leu Gly Asn Phe Tyr Ile	
	425	430	435
Val Phe Leu Tyr	Asn Ala Ala Phe Ala	Gly Leu Thr Thr Leu Cys	

	440		445		450
Leu Val Lys Thr Phe Thr Ala Ala Val Arg Ala Glu Leu Ile Arg					
	455		460		465
Ala Phe Gly Leu Asp Arg Leu Pro Leu Pro Val Ser Gly Phe Pro					
	470		475		480
Gln Ala Ser Arg Lys Thr Gln His Gln					
	485				

<210> 139  
 <211> 294  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 53, 57  
 <223> unknown base

<400> 139  
 ggctgccgag ggaaggcccc ttgggttggt cttggttgct tggcggcggc 50  
 ggnttcntcc ccgctcgtcc tccccgggcc cagaggcacc tcggcttcag 100  
 tcatgctgag cagagtatgg aagcacctga ctacgaagtg ctatccgtgc 150  
 gagaacagct attccacgag aggatccgag agtgtattat atcaacactt 200  
 ctgtttgcaa cactgtacat cctctgccac atcttctctga cccgcttcaa 250  
 gaagcctgct gagttcacca cagtggatga tgaagatgcc accg 294

<210> 140  
 <211> 526  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 197, 349  
 <223> unknown base

<400> 140  
 gaccgacctt aaagagtggg agcaaaggga ggacagagcc ttttaaaacg 50  
 aggcggtggt gcctgccctt taaggcgagg gcgtccggac gactgtatct 100  
 gagccccaga ctgccccgag tttctgtcgc aggctgcgag gaaaggcccc 150  
 taggctgggt ctggtgcttg gcggcgggcg cttcctcccc gttgtcntcc 200  
 ccggggcccag aggcacctcg gcttcagtca tgctgagcag agtatggaag 250  
 cacctgacta cgaagtgcta tccgtgcgag aacagctatt ccacgagagg 300  
 atccgcgagt gtattatatc aacacttctg tttgcaacac tgtacatcnt 350  
 ctgccacatc ttctgaccc gcttcaagaa gcctgctgag ttcaccacag 400  
 tggatgatga agatgccacc gtcaacaaga ttgcgctcga gctgtgcacc 450



tttaccctgg caattgccct ggggtgctgc ctgctcctgc ccttctccat 500

catcagcaat gaggtgctgc actccc 526

<210> 141

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 141

gactgtatct gagccccaga ctgc 24

<210> 142

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 142

tcagcaatga ggtgctgctc 20

<210> 143

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 143

tgaggaagat gagggacagg ttgg 24

<210> 144

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 144

tatggaagca cctgactacg aagtgctatc cgtgcgagaa cagctattcc 50

<210> 145

<211> 685

<212> DNA

<213> Homo sapiens

<400> 145

gatgtgctcc ttggagctgg tgtgcagtgt cctgactgta agatcaagtc 50

caaacctgtt ttggaattga ggaaacttct cttttgatct cagcccttgg 100

tggtccaggt cttcatgctg ctgtgggtga tattactggc cctggctcct 150

gtcagtggac agtttgcaag gacacccagg cccattattt tcctccagcc 200

tccatggacc acagtcttcc aaggagagag agtgaccctc acttgcaagg 250

gatttcgctt ctactcacca cagaaaaacaa aatggtacca tcggtacctt 300  
 gggaaagaaa tactaagaga aaccccagac aatatccttg aggttcagga 350  
 atctggagag tacagatgcc aggcccaggg ctcccctctc agtagccctg 400  
 tgcacttgga tttttcttca gagatgggat ttctcatgc tgcccaggct 450  
 aatgttgaac tcctgggctc aagtgatctg ctcacctagg cctctcaaag 500  
 cgctgggatt acagcttcgc tgatcctgca agctccactt tctgtgtttg 550  
 aaggagactc tgtggttctg aggtgccggg caaaggcgga agtaacactg 600  
 aataatacta tttaacaagaa tgataatgtc ctggcattcc ttaataaaaag 650  
 aactgacttc caaaaaaaaa aaaaaaaaaa aaaaa 685

<210> 146  
 <211> 124  
 <212> PRT  
 <213> Homo sapiens

<400> 146  
 Met Leu Leu Trp Val Ile Leu Leu Val Leu Ala Pro Val Ser Gly  
 1 5 10 15  
 Gln Phe Ala Arg Thr Pro Arg Pro Ile Ile Phe Leu Gln Pro Pro  
 20 25 30  
 Trp Thr Thr Val Phe Gln Gly Glu Arg Val Thr Leu Thr Cys Lys  
 35 40 45  
 Gly Phe Arg Phe Tyr Ser Pro Gln Lys Thr Lys Trp Tyr His Arg  
 50 55 60  
 Tyr Leu Gly Lys Glu Ile Leu Arg Glu Thr Pro Asp Asn Ile Leu  
 65 70 75  
 Glu Val Gln Glu Ser Gly Glu Tyr Arg Cys Gln Ala Gln Gly Ser  
 80 85 90  
 Pro Leu Ser Ser Pro Val His Leu Asp Phe Ser Ser Glu Met Gly  
 95 100 105  
 Phe Pro His Ala Ala Gln Ala Asn Val Glu Leu Leu Gly Ser Ser  
 110 115 120

Asp Leu Leu Thr

<210> 147  
 <211> 1621  
 <212> DNA  
 <213> Homo sapiens

<400> 147  
 cagaagaggg ggctagctag ctgtctctgc ggaccagggg gacccccgcg 50  
 cccccccggt gtgaggcggc ctcacagggc cgggtgggct ggcgagccga 100  
 cgcgggcggcg gaggaggctg tgaggagtgt gtggaacagg acccgggaca 150

gaggaaccat ggctccgcag aacctgagca ccttttgcoct gttgctgcta 200  
 tacctcatcg gggcggtgat tgccggacga gatttctata agatcttggg 250  
 ggtgcctcga agtgccctcta taaaggatat taaaaggcc tataggaaac 300  
 tagccctgca gcttcatccc gaccggaacc ctgatgatcc acaagcccag 350  
 gagaaattcc aggatctggg tgctgcttat gaggttctgt cagatagtga 400  
 gaaacggaaa cagtacgata cttatggtga agaaggatta aaagatggtc 450  
 atcagagctc ccatggagac attttttcac acttctttgg ggattttggt 500  
 ttcattgtttg gaggaacccc tcgtcagcaa gacagaaata ttccaagagg 550  
 aagtgatatt attgtagatc tagaagtcac tttggaagaa gtatatgcag 600  
 gaaatthttgt ggaagtagtt agaaacaaac ctgtggcaag gcaggctcct 650  
 ggcaaacgga agtgcaattg tcggcaagag atgcggacca cccagctggg 700  
 ccctggggcgc ttccaaatga cccaggagggt ggtctgagac gaatgcccta 750  
 atgtcaaaact agtgaatgaa gaacgaacgc tggaagtaga aatagagcct 800  
 ggggtgagag acggcatgga gtaccccttt attggagaag gtgagcctca 850  
 cgtggatggg gagcctggag atttacgggt ccgaatcaaa gttgtcaagc 900  
 acccaatatt tgaaaggaga ggagatgatt tgtacacaaa tgtgacaatc 950  
 tcattagtthg agtcactggg tggctttgag atggatatta ctacttggg 1000  
 tggtcacaag gtacatatth cccgggataa gatcaccagg ccaggagcga 1050  
 agctatggaa gaaaggggaa gggctcccca actttgacaa caacaatatc 1100  
 aagggtctctt tgataatcac ttttgatgtg gattttccaa aagaacagtt 1150  
 aacagaggaa gcgagagaag gtatcaaaca gctactgaaa caagggtcag 1200  
 tgcagaagggt atacaatgga ctgcaaggat attgagagtg aataaaattg 1250  
 gactttgttt aaaataagtg aataagcgat atttattatc tgcaaggttt 1300  
 ttttggtgtg tttttgttt ttattttcaa tatgcaagtt aggtttaatt 1350  
 tttttatcta atgatcatca tgaaatgaat aagagggtt aagaatttgt 1400  
 ccatttgcat tcggaaaaga atgaccagca aaagggttac taatacctct 1450  
 ccctttgggg atttaattgt tgggtgctgcc gcctgagttt caagaattaa 1500  
 agctgcaaga ggactccagg agcaaaagaa acacaatata gagggttgga 1550  
 gttgttagca atttcattca aaatgccaac tggagaagtc tgtttttaa 1600  
 tacattttgt tgttattttt a 1621

<210> 148  
 <211> 358  
 <212> PRT

<213> Homo sapiens

<400> 148

Met	Ala	Pro	Gln	Asn	Leu	Ser	Thr	Phe	Cys	Leu	Leu	Leu	Leu	Tyr
1				5					10					15
Leu	Ile	Gly	Ala	Val	Ile	Ala	Gly	Arg	Asp	Phe	Tyr	Lys	Ile	Leu
				20					25					30
Gly	Val	Pro	Arg	Ser	Ala	Ser	Ile	Lys	Asp	Ile	Lys	Lys	Ala	Tyr
				35					40					45
Arg	Lys	Leu	Ala	Leu	Gln	Leu	His	Pro	Asp	Arg	Asn	Pro	Asp	Asp
				50					55					60
Pro	Gln	Ala	Gln	Glu	Lys	Phe	Gln	Asp	Leu	Gly	Ala	Ala	Tyr	Glu
				65					70					75
Val	Leu	Ser	Asp	Ser	Glu	Lys	Arg	Lys	Gln	Tyr	Asp	Thr	Tyr	Gly
				80					85					90
Glu	Glu	Gly	Leu	Lys	Asp	Gly	His	Gln	Ser	Ser	His	Gly	Asp	Ile
				95					100					105
Phe	Ser	His	Phe	Phe	Gly	Asp	Phe	Gly	Phe	Met	Phe	Gly	Gly	Thr
				110					115					120
Pro	Arg	Gln	Gln	Asp	Arg	Asn	Ile	Pro	Arg	Gly	Ser	Asp	Ile	Ile
				125					130					135
Val	Asp	Leu	Glu	Val	Thr	Leu	Glu	Glu	Val	Tyr	Ala	Gly	Asn	Phe
				140					145					150
Val	Glu	Val	Val	Arg	Asn	Lys	Pro	Val	Ala	Arg	Gln	Ala	Pro	Gly
				155					160					165
Lys	Arg	Lys	Cys	Asn	Cys	Arg	Gln	Glu	Met	Arg	Thr	Thr	Gln	Leu
				170					175					180
Gly	Pro	Gly	Arg	Phe	Gln	Met	Thr	Gln	Glu	Val	Val	Cys	Asp	Glu
				185					190					195
Cys	Pro	Asn	Val	Lys	Leu	Val	Asn	Glu	Glu	Arg	Thr	Leu	Glu	Val
				200					205					210
Glu	Ile	Glu	Pro	Gly	Val	Arg	Asp	Gly	Met	Glu	Tyr	Pro	Phe	Ile
				215					220					225
Gly	Glu	Gly	Glu	Pro	His	Val	Asp	Gly	Glu	Pro	Gly	Asp	Leu	Arg
				230					235					240
Phe	Arg	Ile	Lys	Val	Val	Lys	His	Pro	Ile	Phe	Glu	Arg	Arg	Gly
				245					250					255
Asp	Asp	Leu	Tyr	Thr	Asn	Val	Thr	Ile	Ser	Leu	Val	Glu	Ser	Leu
				260					265					270
Val	Gly	Phe	Glu	Met	Asp	Ile	Thr	His	Leu	Asp	Gly	His	Lys	Val
				275					280					285
His	Ile	Ser	Arg	Asp	Lys	Ile	Thr	Arg	Pro	Gly	Ala	Lys	Leu	Trp
				290					295					300

Lys Lys Gly Glu Gly Leu Pro Asn Phe Asp Asn Asn Asn Ile Lys  
 305 310 315  
 Gly Ser Leu Ile Ile Thr Phe Asp Val Asp Phe Pro Lys Glu Gln  
 320 325 330  
 Leu Thr Glu Glu Ala Arg Glu Gly Ile Lys Gln Leu Leu Lys Gln  
 335 340 345  
 Gly Ser Val Gln Lys Val Tyr Asn Gly Leu Gln Gly Tyr  
 350 355

<210> 149  
 <211> 509  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 34, 52, 134, 142, 155, 158, 196, 217, 228, 272, 347, 410, 445,  
 482  
 <223> unknown base

<400> 149  
 tgggaccagg gaaccccgagg ccccccggtg gagngcctaa caggccggtg 50  
 gntgcgaccg aagcggcgagg cggaggaggt tttgaggatt tttggaacag 100  
 gaccocggaca gaggaaccat gggtccgcag aacntgagca cnttttgcct 150  
 gttgntgnta tacttcatcg gggcggtgat tgccggacga gatttntata 200  
 agattttggg gtgcctngaa gtgccttnta taaaggatat taaaaaggcc 250  
 tataggaaac tagccctgca gntttatccc gaccggaacc ctgatgatcc 300  
 acaagcccag gagaaattcc aggatttggg tgctgcttat gaggttntgt 350  
 cagatagtga gaaacggaaa cagtacgata attatggtga agaaggatta 400  
 aaagatggtn atcagagctc ccattggagac attttttcac acttntttgg 450  
 ggattttggt ttcattgttg gaggaacccc tngtcagcaa gacagaaata 500  
 ttccaagag 509

<210> 150  
 <211> 1532  
 <212> DNA  
 <213> Homo sapiens

<400> 150  
 ggcacgaggc ggcggggcag tcgcgggatg cgcgcgggag ccacagcctg 50  
 aggccctcag gtctctgcag gtgtcgtgga ggaacctagc acctgccatc 100  
 ctcttcccca atttgccact tccagcagct ttagcccatg aggaggatgt 150  
 gaccgggact gagtcaggag ccctctggaa gcatggagac tgtggtgatt 200  
 gttgocatag gtgtgctggc caccatcttt ctggcttcgt ttgcagcctt 250  
 ggtgctgggt tgcaggcagc gctactgccg gccgcgagac ctgctgcagc 300

gctatgattc taagcccatt gtggacctca ttggtgccat ggagacccag 350  
tctgagccct ctgagttaga actggacgat gtcgttatca ccaacccccca 400  
cattgaggcc attctggaga atgaagactg gatcgaagat gcctcgggtc 450  
tcatgtccca ctgcattgcc atcttgaaga tttgtcacac tctgacagag 500  
aagcttggtg ccatgacaat gggctctggg gccaatga agacttcagc 550  
cagtgtcagc gacatcattg tgggtggccaa gggatcagc cccaggggtg 600  
atgatgttgt gaagtcgatg taccctccgt tggaccccaa actcctggac 650  
gcacggacga ctgccctgct cctgtctgtc agtcacctgg tgctggtgac 700  
aaggaatgcc tgccatctga cgggaggcct ggactggatt gaccagtctc 750  
tgtcggctgc tgaggagcat ttggaagtcc ttcgagaagc agccctagct 800  
tctgagccag ataaaggcct cccaggccct gaaggcttcc tgcaggagca 850  
gtctgcaatt tagtgccctac aggccagcag ctagccatga aggccctgc 900  
cgccatccct ggatggctca gcttagcctt ctactttttc ctatagagtt 950  
agttgttctc cacggctgga gagttcagct gtgtgtgcat agtaaagcag 1000  
gagatccccg tcagtttatg cctcttttgc agttgcaaac tgtggctggt 1050  
gagtggcagt ctaatactac agttagggga gatgccattc actctctgca 1100  
agaggagtat tgaaaactgg tggactgtca gctttattta gctcacctag 1150  
tgttttcaag aaaattgagc caccgtctaa gaaatcaaga ggtttcacat 1200  
taaaattaga atttctggcc tctctogac ggtcagaatg tgtggcaatt 1250  
ctgatctgca ttttcagaag aggacaatca attgaaacta agtaggggtt 1300  
tcttcttttg gcaagacttg tactctctca cctggcctgt ttcattttatt 1350  
tgtattatct gcctggtccc tgaggcgtct gggctctctcc tctcccttgc 1400  
aggtttgggt ttgaagctga ggaactacaa agttgatgat ttctttttta 1450  
tctttatgcc tgcaatttta cctagctacc actaggtgga tagtaaattt 1500  
atacttatgt ttccctcaaa aaaaaaaaaa aa 1532

<210> 151

<211> 226

<212> PRT

<213> Homo sapiens

<400> 151

Met Glu Thr Val Val Ile Val Ala Ile Gly Val Leu Ala Thr Ile  
1 5 10 15

Phe Leu Ala Ser Phe Ala Ala Leu Val Leu Val Cys Arg Gln Arg  
20 25 30

Tyr Cys Arg Pro Arg Asp Leu Leu Gln Arg Tyr Asp Ser Lys Pro

	35	40	45
Ile Val Asp Leu Ile Gly Ala Met Glu Thr Gln Ser Glu Pro Ser	50	55	60
Glu Leu Glu Leu Asp Asp Val Val Ile Thr Asn Pro His Ile Glu	65	70	75
Ala Ile Leu Glu Asn Glu Asp Trp Ile Glu Asp Ala Ser Gly Leu	80	85	90
Met Ser His Cys Ile Ala Ile Leu Lys Ile Cys His Thr Leu Thr	95	100	105
Glu Lys Leu Val Ala Met Thr Met Gly Ser Gly Ala Lys Met Lys	110	115	120
Thr Ser Ala Ser Val Ser Asp Ile Ile Val Val Ala Lys Arg Ile	125	130	135
Ser Pro Arg Val Asp Asp Val Val Lys Ser Met Tyr Pro Pro Leu	140	145	150
Asp Pro Lys Leu Leu Asp Ala Arg Thr Thr Ala Leu Leu Leu Ser	155	160	165
Val Ser His Leu Val Leu Val Thr Arg Asn Ala Cys His Leu Thr	170	175	180
Gly Gly Leu Asp Trp Ile Asp Gln Ser Leu Ser Ala Ala Glu Glu	185	190	195
His Leu Glu Val Leu Arg Glu Ala Ala Leu Ala Ser Glu Pro Asp	200	205	210
Lys Gly Leu Pro Gly Pro Glu Gly Phe Leu Gln Glu Gln Ser Ala	215	220	225
Ile			

<210> 152  
 <211> 1027  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 1017, 1020  
 <223> unknown base

<400> 152  
 gcttcatttc tcccgaactca gtttcccacc ctgggctttc cgaggtgctt 50  
 tcgccgctgt ccccaact gacgcatga tctccttaac ggacacgcag 100  
 aaaattggaa tgggattaac aggatttggga gtgtttttcc tgttctttgg 150  
 aatgattctc ttttttgaca aagcactact ggctatttga aatgttttat 200  
 ttgtagccgg cttggctttt gtaattgggt tagaaagaac attcagattc 250  
 ttcttccaaa aacataaaat gaaagctaca ggtttttttc tgggtggtgt 300

attttagtagtc cttattgggtt ggcctttgat aggcattgac ttcgaaattt 350  
atggattttt tctcttggtc aggggcttct ttctgtcgt tgttggcttt 400  
attagaagag tgccagtcct tggatccctc ctaaatttac ctggaattag 450  
atcatttgta gataaagttg gagaaagcaa caatatggta taacaacaag 500  
tgaatttgaa gactcattta aaatattgtg ttatttataa agtcatttga 550  
agaatattca gcacaaaatt aaattacatg aaatagcttg taatgttctt 600  
tacaggagtt taaaacgtat agcctacaaa gtaccagcag caaattagca 650  
aagaagcagt gaaaacaggc ttctactcaa gtgaactaag aagaagtcag 700  
caagcaaaact gagagaggtg aaatccatgt taatgatgct taagaaactc 750  
ttgaaggcta tttgtgttgt ttttccacaa tgtgcgaaac tcagccatcc 800  
ttagagaact gtggtgcctg tttcttttct ttttattttg aaggctcagg 850  
agcatccata ggcatttgct ttttagaagt gtccactgca atggcaaaaa 900  
tatttccagt tgcactgtat ctctggaagt gatgcatgaa ttcgattgga 950  
ttgtgtcatt ttaaagtatt aaaaccaagg aaacccaat tttgatgtat 1000  
ggattacttt ttttgnngcn cagggcc 1027

<210> 153  
<211> 138  
<212> PRT  
<213> Homo sapiens

<220>  
<221> N-myristoylation Sites  
<222> 11-16, 51-56 and 116-121  
<223> N-myristoylation Sites.

<220>  
<221> Transmembrane domains  
<222> 12-30, 33-52, 69-89 and 93-109  
<223> Transmembrane domains

<220>  
<221> Aminoacyl-transfer RNA Synthetases.  
<222> 49-59  
<223> Aminoacyl-transfer RNA synthetases class-II protein.

<400> 153  
Met Ile Ser Leu Thr Asp Thr Gln Lys Ile Gly Met Gly Leu Thr  
1 5 10 15  
Gly Phe Gly Val Phe Phe Leu Phe Phe Gly Met Ile Leu Phe Phe  
20 25 30  
Asp Lys Ala Leu Leu Ala Ile Gly Asn Val Leu Phe Val Ala Gly  
35 40 45  
Leu Ala Phe Val Ile Gly Leu Glu Arg Thr Phe Arg Phe Phe Phe  
50 55 60



Gln	Lys	His	Lys	Met	Lys	Ala	Thr	Gly	Phe	Phe	Leu	Gly	Gly	Val
				65					70					75
Phe	Val	Val	Leu	Ile	Gly	Trp	Pro	Leu	Ile	Gly	Met	Ile	Phe	Glu
				80					85					90
Ile	Tyr	Gly	Phe	Phe	Leu	Leu	Phe	Arg	Gly	Phe	Phe	Pro	Val	Val
				95					100					105
Val	Gly	Phe	Ile	Arg	Arg	Val	Pro	Val	Leu	Gly	Ser	Leu	Leu	Asn
				110					115					120
Leu	Pro	Gly	Ile	Arg	Ser	Phe	Val	Asp	Lys	Val	Gly	Glu	Ser	Asn
				125					130					135

Asn Met Val

<210> 154  
 <211> 405  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 66  
 <223> unknown base

<400> 154  
 gaagacgtgg cggtctctgc ctgggctggt tcccggttc atttctcccg 50  
 actcagcttc ccacntggg ctttcgagg tgctttcgcc gctgtcccca 100  
 ccaactgcagc catgatctcc ttaacggaca cgcagaaaat tggaatggga 150  
 ttaaccggat ttggagtgtt tttcctgttc tttggaatga ttctcttttt 200  
 tgacaaagca ctactggcta ttggaaatgt tttatttgta gccggcttgg 250  
 cttttgtaat tggtttagaa agaacattca gattcttctt ccaaaaacat 300  
 aaaatgaaag ctacaggttt ttttctgggt ggtgtatttg tagtccttat 350  
 tggttggcct ttgataggca tgatcttcga aatttatgga ttttttctct 400  
 tgttc 405

<210> 155  
 <211> 1781  
 <212> DNA  
 <213> Homo sapiens

<400> 155  
 ggcacgaggc tgaaccagc cggtccatc tcagcttctg gtttctaagt 50  
 ccatgtgcc aaggctgcc ggaaggagac gccttcctga gtcctggatc 100  
 ttttttctt ctggaaatct ttgactgtgg gtagttattt atttctgaat 150  
 aagagcgtcc acgcatcatg gacctcgcg gactgctgaa gtctcagttc 200  
 ctgtgccacc tggcttctct ctacgtcttt attgcctcag ggctaatacat 250

caacaccatt cagctcttca ctctcctcct ctggcccatt aacaagcagc 300  
 tcttccggaa gatcaactgc agactgtcct attgcatctc aagccagctg 350  
 gtgatgctgc tggagtgggtg gtcgggcacg gaatgcacca tcttcacgga 400  
 cccgcgcgcc tacctcaagt atgggaagga aaatgccatc gtgggttctca 450  
 accacaagtt tgaaattgac tttctgtgtg gctggagcct gtccgaacgc 500  
 tttgggctgt tagggggctc caaggctcctg gccaaagaaag agctggccta 550  
 tgtcccaatt atcggctgga tgtggtactt caccgagatg gtcttctgtt 600  
 cgcgcaagtg ggagcaggat cgcaagacgg ttgccaccag tttgcagcac 650  
 ctccgggact accccgagaa gtattttttc ctgattcact gtgagggcac 700  
 acggttcacg gagaagaagc atgagatcag catgcagggtg gcccgggcca 750  
 aggggctgcc tcgcctcaag catcacctgt tgccacgaac caagggcttc 800  
 gccatcaccg tgaggagctt gagaaatgta gtttcagctg tatatgactg 850  
 tacactcaat ttcagaaata atgaaaatcc aacactgctg ggagtcctaa 900  
 acggaagaa ataccatgca gatttgtatg ttaggaggat cccactggaa 950  
 gacatccctg aagacgatga cgagtgtcgc gcttggtgc acaagctcta 1000  
 ccaggagaag gatgcctttc aggaggagta ctacaggacg ggcaccttcc 1050  
 cagagacgcc catggtgccc ccccggggc cctggaccct cgtgaactgg 1100  
 ctgttttggg cctcgtggt gctctaccct ttcttccagt tctgggtcag 1150  
 catgatcagg agcgggtctt ccctgacgct ggccagcttc atcctcgtct 1200  
 tctttgtggc ctccgtggga gttcgatgga tgattggtgt gacggaaatt 1250  
 gacaagggct ctgcctacgg caactctgac agcaagcaga aactgaatga 1300  
 ctgactcagg gaggtgtcac catccgaagg gaaccttggg gaactggtgg 1350  
 cctctgcata tcctccttag tgggacacgg tgacaaaggc tgggtgagcc 1400  
 cctgctgggc acggcggaag tcacgacctc tccagccagg gagtctggtc 1450  
 tcaaggccgg atggggagga agatgttttg taatcttttt ttccccatgt 1500  
 gcttttagtg gctttggttt tctttttgtg cgagtgtgtg tgagaatggc 1550  
 tgtgtggtga gtgtgaactt tgttctgtga tcatagaaag ggtatttttag 1600  
 gctgcagggg agggcagggc tggggaccga aggggacaag ttcccccttc 1650  
 atcctttggt gctgagtttt ctgtaaccct tggttgccag agataaagt 1700  
 aaaagtgctt taggtgagat gactaaatta tgcctccaag aaaaaaaaaat 1750  
 taaagtgctt ttctgggtca aaaaaaaaaa a 1781

<210> 156

<211> 378  
 <212> PRT  
 <213> Homo sapiens

<400> 156

Met	Asp	Leu	Ala	Gly	Leu	Leu	Lys	Ser	Gln	Phe	Leu	Cys	His	Leu	1	5	10	15
Val	Phe	Cys	Tyr	Val	Phe	Ile	Ala	Ser	Gly	Leu	Ile	Ile	Asn	Thr	20	25	30	
Ile	Gln	Leu	Phe	Thr	Leu	Leu	Leu	Trp	Pro	Ile	Asn	Lys	Gln	Leu	35	40	45	
Phe	Arg	Lys	Ile	Asn	Cys	Arg	Leu	Ser	Tyr	Cys	Ile	Ser	Ser	Gln	50	55	60	
Leu	Val	Met	Leu	Leu	Glu	Trp	Trp	Ser	Gly	Thr	Glu	Cys	Thr	Ile	65	70	75	
Phe	Thr	Asp	Pro	Arg	Ala	Tyr	Leu	Lys	Tyr	Gly	Lys	Glu	Asn	Ala	80	85	90	
Ile	Val	Val	Leu	Asn	His	Lys	Phe	Glu	Ile	Asp	Phe	Leu	Cys	Gly	95	100	105	
Trp	Ser	Leu	Ser	Glu	Arg	Phe	Gly	Leu	Leu	Gly	Gly	Ser	Lys	Val	110	115	120	
Leu	Ala	Lys	Lys	Glu	Leu	Ala	Tyr	Val	Pro	Ile	Ile	Gly	Trp	Met	125	130	135	
Trp	Tyr	Phe	Thr	Glu	Met	Val	Phe	Cys	Ser	Arg	Lys	Trp	Glu	Gln	140	145	150	
Asp	Arg	Lys	Thr	Val	Ala	Thr	Ser	Leu	Gln	His	Leu	Arg	Asp	Tyr	155	160	165	
Pro	Glu	Lys	Tyr	Phe	Phe	Leu	Ile	His	Cys	Glu	Gly	Thr	Arg	Phe	170	175	180	
Thr	Glu	Lys	Lys	His	Glu	Ile	Ser	Met	Gln	Val	Ala	Arg	Ala	Lys	185	190	195	
Gly	Leu	Pro	Arg	Leu	Lys	His	His	Leu	Leu	Pro	Arg	Thr	Lys	Gly	200	205	210	
Phe	Ala	Ile	Thr	Val	Arg	Ser	Leu	Arg	Asn	Val	Val	Ser	Ala	Val	215	220	225	
Tyr	Asp	Cys	Thr	Leu	Asn	Phe	Arg	Asn	Asn	Glu	Asn	Pro	Thr	Leu	230	235	240	
Leu	Gly	Val	Leu	Asn	Gly	Lys	Lys	Tyr	His	Ala	Asp	Leu	Tyr	Val	245	250	255	
Arg	Arg	Ile	Pro	Leu	Glu	Asp	Ile	Pro	Glu	Asp	Asp	Asp	Glu	Cys	260	265	270	
Ser	Ala	Trp	Leu	His	Lys	Leu	Tyr	Gln	Glu	Lys	Asp	Ala	Phe	Gln	275	280	285	
Glu	Glu	Tyr	Tyr	Arg	Thr	Gly	Thr	Phe	Pro	Glu	Thr	Pro	Met	Val				

099463-1401

290					295					300				
Pro	Pro	Arg	Arg	Pro	Trp	Thr	Leu	Val	Asn	Trp	Leu	Phe	Trp	Ala
				305					310					315
Ser	Leu	Val	Leu	Tyr	Pro	Phe	Phe	Gln	Phe	Leu	Val	Ser	Met	Ile
				320					325					330
Arg	Ser	Gly	Ser	Ser	Leu	Thr	Leu	Ala	Ser	Phe	Ile	Leu	Val	Phe
				335					340					345
Phe	Val	Ala	Ser	Val	Gly	Val	Arg	Trp	Met	Ile	Gly	Val	Thr	Glu
				350					355					360
Ile	Asp	Lys	Gly	Ser	Ala	Tyr	Gly	Asn	Ser	Asp	Ser	Lys	Gln	Lys
				365					370					375
Leu Asn Asp														

<210> 157  
<211> 1849  
<212> DNA  
<213> Homo sapiens

<400> 157  
ctgaggcggc ggtagcatgg agggggagag tacgtcggcg gtgctctcgg 50  
gctttgtgct cggcgcactc gctttccagc acctcaacac ggactcggac 100  
acggaagggt ttcttcttgg ggaagtaaaa ggtgaagcca agaacagcat 150  
tactgattcc caaatggatg atgttgaagt tgtttataca attgacattc 200  
agaaatatat tccatgctat cagcttttta gcttttataa ttcttcaggc 250  
gaagtaaatg agcaagcact gaagaaaata ttatcaaagc tcaaaaagaa 300  
tgtggtaggt tggtaaaaat tccgtcgtca ttcagatcag atcatgacgt 350  
ttagagagag gctgcttcac aaaaacttgc aggagcattt ttcaaaccac 400  
gaccttggtt ttctgctatt aacaccaagt ataataacag aaagctgctc 450  
tactcatcga ctggaacatt ccttatataa acctcaaaaa ggactttttc 500  
acagggtagc tttagtgggt gccaatctgg gcatgtctga acaactgggt 550  
tataaaaactg tatcagggtc ctgtatgtcc actggtttta gccgagcagt 600  
acaaacacac agctctaaat tttttgaaga agatggatcc ttaaaggagg 650  
tacataagat aaatgaaatg tatgcttcat tacaagagga attaaagagt 700  
atatgcaaaa aagtggaaga cagtgaacaa gcagtagata aactagtaaa 750  
ggatgtaaac agattaaaac gagaaattga gaaaaggaga ggagcacaga 800  
ttcaggcagc aagagagaag aacatccaaa aagaccctca ggagaacatt 850  
tttctttgtc aggcattacg gacctttttt ccaaattctg aatttcttca 900  
ttcatgtgtt atgtctttta aaaatagaca tgtttctaaa agtagctgta 950

actacaacca ccattctgat gtagtagaca atctgacctt aatggtagaa 1000  
cacactgaca ttcctgaagc tagtccagct agtacaccac aaatcattaa 1050  
gcataaagcc ttagacttag atgacagatg gcaattcaag agatctcggt 1100  
tgtagatac acaagacaaa cgatctaaag caaatactgg tagtagtaac 1150  
caagataaag catccaaaat gagcagccca gaaacagatg aagaaattga 1200  
aaagatgaag gggtttggtg aatattcacg gtctctaca ttttgatcct 1250  
tttaacctta caaggagatt tttttatttg gctgatgggt aaagccaaac 1300  
atttctattg tttttactat gttgagctac ttgcagtaag ttcatttggt 1350  
tttactatgt tcacctgttt gcagtaatac acagataact cttagtgcac 1400  
ttacttcaca aagtactttt tcaaacatca gatgctttta tttccaaacc 1450  
tttttttcac ctttactaa gttgttgagg ggaaggctta cacagacaca 1500  
ttcttttagaa ttggaaaagt gagaccaggc acagtggctc acacctgtaa 1550  
tcccagcact tagggaagac aagtcaggag gattgattga agctaggagt 1600  
tagagaccag cctgggcaac gtattgagac catgtctatt aaaaaataaa 1650  
atggaaaagc aagaatagcc ttattttcaa aatatggaaa gaaatttata 1700  
tgaaaattta tctgagtcac taaaattctc ctttaagtga acttttttag 1750  
aagtacatta tggctagagt tgccagataa aatgctggat atcatgcaat 1800  
aaatttgcaa aacatcatct aaaatttaaa aaaaaaaaaa aaaaaaaaaa 1849

<210> 158  
<211> 409  
<212> PRT  
<213> Homo sapiens

<400> 158  
Met Glu Gly Glu Ser Thr Ser Ala Val Leu Ser Gly Phe Val Leu  
1 5 10 15  
Gly Ala Leu Ala Phe Gln His Leu Asn Thr Asp Ser Asp Thr Glu  
20 25 30  
Gly Phe Leu Leu Gly Glu Val Lys Gly Glu Ala Lys Asn Ser Ile  
35 40 45  
Thr Asp Ser Gln Met Asp Asp Val Glu Val Val Tyr Thr Ile Asp  
50 55 60  
Ile Gln Lys Tyr Ile Pro Cys Tyr Gln Leu Phe Ser Phe Tyr Asn  
65 70 75  
Ser Ser Gly Glu Val Asn Glu Gln Ala Leu Lys Lys Ile Leu Ser  
80 85 90  
Asn Val Lys Lys Asn Val Val Gly Trp Tyr Lys Phe Arg Arg His  
95 100 105

Ser	Asp	Gln	Ile	Met	Thr	Phe	Arg	Glu	Arg	Leu	Leu	His	Lys	Asn	
				110					115					120	
Leu	Gln	Glu	His	Phe	Ser	Asn	Gln	Asp	Leu	Val	Phe	Leu	Leu	Leu	
				125					130					135	
Thr	Pro	Ser	Ile	Ile	Thr	Glu	Ser	Cys	Ser	Thr	His	Arg	Leu	Glu	
				140					145					150	
His	Ser	Leu	Tyr	Lys	Pro	Gln	Lys	Gly	Leu	Phe	His	Arg	Val	Pro	
				155					160					165	
Leu	Val	Val	Ala	Asn	Leu	Gly	Met	Ser	Glu	Gln	Leu	Gly	Tyr	Lys	
				170					175					180	
Thr	Val	Ser	Gly	Ser	Cys	Met	Ser	Thr	Gly	Phe	Ser	Arg	Ala	Val	
				185					190					195	
Gln	Thr	His	Ser	Ser	Lys	Phe	Phe	Glu	Glu	Asp	Gly	Ser	Leu	Lys	
				200					205					210	
Glu	Val	His	Lys	Ile	Asn	Glu	Met	Tyr	Ala	Ser	Leu	Gln	Glu	Glu	
				215					220					225	
Leu	Lys	Ser	Ile	Cys	Lys	Lys	Val	Glu	Asp	Ser	Glu	Gln	Ala	Val	
				230					235					240	
Asp	Lys	Leu	Val	Lys	Asp	Val	Asn	Arg	Leu	Lys	Arg	Glu	Ile	Glu	
				245					250					255	
Lys	Arg	Arg	Gly	Ala	Gln	Ile	Gln	Ala	Ala	Arg	Glu	Lys	Asn	Ile	
				260					265					270	
Gln	Lys	Asp	Pro	Gln	Glu	Asn	Ile	Phe	Leu	Cys	Gln	Ala	Leu	Arg	
				275					280					285	
Thr	Phe	Phe	Pro	Asn	Ser	Glu	Phe	Leu	His	Ser	Cys	Val	Met	Ser	
				290					295					300	
Leu	Lys	Asn	Arg	His	Val	Ser	Lys	Ser	Ser	Cys	Asn	Tyr	Asn	His	
				305					310					315	
His	Leu	Asp	Val	Val	Asp	Asn	Leu	Thr	Leu	Met	Val	Glu	His	Thr	
				320					325					330	
Asp	Ile	Pro	Glu	Ala	Ser	Pro	Ala	Ser	Thr	Pro	Gln	Ile	Ile	Lys	
				335					340					345	
His	Lys	Ala	Leu	Asp	Leu	Asp	Asp	Arg	Trp	Gln	Phe	Lys	Arg	Ser	
				350					355					360	
Arg	Leu	Leu	Asp	Thr	Gln	Asp	Lys	Arg	Ser	Lys	Ala	Asn	Thr	Gly	
				365					370					375	
Ser	Ser	Asn	Gln	Asp	Lys	Ala	Ser	Lys	Met	Ser	Ser	Pro	Glu	Thr	
				380					385					390	
Asp	Glu	Glu	Ile	Glu	Lys	Met	Lys	Gly	Phe	Gly	Glu	Tyr	Ser	Arg	
				395					400					405	
Ser	Pro	Thr	Phe												

<210> 159  
<211> 2651  
<212> DNA  
<213> Homo sapiens

<400> 159  
ggcacagccg cgcggcggag ggcagagtca gccagagcga gtccagccgg 50  
acgagcggac cagcgcaggg cagcccaagc agcgcgcagc gaacgcccgc 100  
cgccgcccac accctctgcg gtccccgcgg cgccctgccac ccttccctcc 150  
ttccccgcgt ccccgccctc cgggccagtc agcttgccgg gttecgctgcc 200  
ccgcgaaacc ccgaggtcac cagcccgcgc ctctgcttcc ctggggccgcg 250  
cgccgcctcc acgccctcct tctccctcgg cccggcgcct ggcaccgggg 300  
accgttgccct gacgcgaggc ccagctctac ttttcgcccc gcgtctcctc 350  
cgctgctcg cctcttccac caactccaac tctttctccc tccagctcca 400  
ctcgctagtc cccgactccg ccagccctcg gcccgctgcc gtagcgccgc 450  
ttcccgctccg gtcccaaagg tgggaacgcg tccgccccgg cccgcacccat 500  
ggcacgggttc ggcttgcccg cgcttctctg caccctggca gtgctcagcg 550  
ccgcgctgct ggctgcgag ctcaagtcca aaagttgctc ggaagtgcga 600  
cgtctttacg tgtccaaagg cttcaacaag aacgatgccc ccctccacga 650  
gatcaacggt gatcatttga agatctgtcc ccagggttct acctgctgct 700  
ctcaagagat ggaggagaag tacagcctgc aaagtaaaga tgatttcaaa 750  
agtgtggtca gcgaacagtg caatcatttg caagctgtct ttgcttcacg 800  
ttacaagaag tttgatgaat tcttcaaaga actacttgaa aatgcagaga 850  
aatccctgaa tgatatgttt gtgaagacat atggccattt atacatgcaa 900  
aattctgagc tatttaaaga tctcttcgta gagttgaaac gttactacgt 950  
ggtgggaaat gtgaacctgg aagaaatgct aaatgacttc tgggctcgcc 1000  
tcttgagcgc gatgttccgc ctggtgaact ccagtagcca ctttacagat 1050  
gagtatctgg aatgtgtgag caagtatacg gagcagctga agcccttcgg 1100  
agatgtccct cgcaaattga agctccaggt tactcgtgct tttgtagcag 1150  
cccgtacttt cgctcaaggc ttagcgggtg cgggagatgt cgtgagcaag 1200  
gtctccgtgg taaaccccac agcccagtggt acccatgccc tgttgaagat 1250  
gatctactgc tcccactgcc ggggtctcgt gactgtgaag ccatgttaca 1300  
actactgctc aaacatcatg agaggctgtt tggccaacca aggggatctc 1350  
gattttgaat ggaacaattt catagatgct atgctgatgg tggcagagag 1400  
gctagagggt cctttcaaca ttgaatcggg catggatccc atcgatgtga 1450

agatttctga tgctattatg aacatgcagg ataatagtgt tcaagtgtct 1500  
 cagaagggtt tccagggatg tggaccccc aagccccctcc cagctggacg 1550  
 aatttctcgt tccatctctg aaagtgcctt cagtgtctgc ttcagaccac 1600  
 atcaccccga ggaacgcccc accacagcag ctggcactag tttggaccga 1650  
 ctggttactg atgtcaagga gaaactgaaa caggccaaga aattctggtc 1700  
 ctcccttccg agcaacgttt gcaacgatga gaggatggct gcaggaaacg 1750  
 gcaatgagga tgactgttgg aatgggaaag gcaaaagcag gtacctgttt 1800  
 gcagtgcacg gaaatggatt agccaaccag ggcaacaacc cagaggtcca 1850  
 ggttgacacc agcaaaccag acatactgat ccttcgtcaa atcatggctc 1900  
 ttcgagtgat gaccagcaag atgaagaatg catacaatgg gaacgacgtg 1950  
 gacttctttg atatcagtga tgaaagtagt ggagaaggaa gtggaagtgg 2000  
 ctgtgagtat cagcagtgcc cttcagagtt tgactacaat gccactgacc 2050  
 atgctgggaa gagtgccaat gagaaagccg acagtgtctg tgtccgtcct 2100  
 ggggcacagg cctacctcct cactgtcttc tgcattctgt tcttggttat 2150  
 gcagagagag tggagataat tctcaaactc tgagaaaaag tgttcatcaa 2200  
 aaagttaaaa ggcaccagtt atcacttttc taccatccta gtgactttgc 2250  
 tttttaaatg aatggacaac aatgtacagt ttttactatg tggccactgg 2300  
 ttttaagaagt gctgactttg ttttctcatt cagttttggg aggaaaagg 2350  
 actgtgcatt gagttgggtc ctgctcccc aaaccatgtt aaacgtggct 2400  
 aacagtgtag gtacagaact atagttagtt gtgcatttgt gattttatca 2450  
 ctctattatt tgtttgtatg tttttttctc atttcgtttg tgggtttttt 2500  
 tttccaactg tgatctcgcc ttgtttctta caagcaaacc aggtccctt 2550  
 cttggcacgt aacatgtacg tatttctgaa atattaaata gctgtacaga 2600  
 agcaggtttt atttatcatg ttatcttatt aaaagaaaaa gcccaaaaag 2650

c 2651

<210> 160

<211> 556

<212> PRT

<213> Homo sapiens

<400> 160

Met Ala Arg Phe Gly Leu Pro Ala Leu Leu Cys Thr Leu Ala Val  
 1 5 10 15

Leu Ser Ala Ala Leu Leu Ala Ala Glu Leu Lys Ser Lys Ser Cys  
 20 25 30

Ser Glu Val Arg Arg Leu Tyr Val Ser Lys Gly Phe Asn Lys Asn



	35	40	45
Asp Ala Pro Leu His Glu Ile Asn Gly Asp His Leu Lys Ile Cys	50	55	60
Pro Gln Gly Ser Thr Cys Cys Ser Gln Glu Met Glu Glu Lys Tyr	65	70	75
Ser Leu Gln Ser Lys Asp Asp Phe Lys Ser Val Val Ser Glu Gln	80	85	90
Cys Asn His Leu Gln Ala Val Phe Ala Ser Arg Tyr Lys Lys Phe	95	100	105
Asp Glu Phe Phe Lys Glu Leu Leu Glu Asn Ala Glu Lys Ser Leu	110	115	120
Asn Asp Met Phe Val Lys Thr Tyr Gly His Leu Tyr Met Gln Asn	125	130	135
Ser Glu Leu Phe Lys Asp Leu Phe Val Glu Leu Lys Arg Tyr Tyr	140	145	150
Val Val Gly Asn Val Asn Leu Glu Glu Met Leu Asn Asp Phe Trp	155	160	165
Ala Arg Leu Leu Glu Arg Met Phe Arg Leu Val Asn Ser Gln Tyr	170	175	180
His Phe Thr Asp Glu Tyr Leu Glu Cys Val Ser Lys Tyr Thr Glu	185	190	195
Gln Leu Lys Pro Phe Gly Asp Val Pro Arg Lys Leu Lys Leu Gln	200	205	210
Val Thr Arg Ala Phe Val Ala Ala Arg Thr Phe Ala Gln Gly Leu	215	220	225
Ala Val Ala Gly Asp Val Val Ser Lys Val Ser Val Val Asn Pro	230	235	240
Thr Ala Gln Cys Thr His Ala Leu Leu Lys Met Ile Tyr Cys Ser	245	250	255
His Cys Arg Gly Leu Val Thr Val Lys Pro Cys Tyr Asn Tyr Cys	260	265	270
Ser Asn Ile Met Arg Gly Cys Leu Ala Asn Gln Gly Asp Leu Asp	275	280	285
Phe Glu Trp Asn Asn Phe Ile Asp Ala Met Leu Met Val Ala Glu	290	295	300
Arg Leu Glu Gly Pro Phe Asn Ile Glu Ser Val Met Asp Pro Ile	305	310	315
Asp Val Lys Ile Ser Asp Ala Ile Met Asn Met Gln Asp Asn Ser	320	325	330
Val Gln Val Ser Gln Lys Val Phe Gln Gly Cys Gly Pro Pro Lys	335	340	345
Pro Leu Pro Ala Gly Arg Ile Ser Arg Ser Ile Ser Glu Ser Ala			

	350		355		360
Phe Ser Ala Arg	Phe Arg Pro His His	Pro Glu Glu Arg Pro	Thr		
	365	370	375		
Thr Ala Ala Gly	Thr Ser Leu Asp Arg	Leu Val Thr Asp Val	Lys		
	380	385	390		
Glu Lys Leu Lys	Gln Ala Lys Lys Phe	Trp Ser Ser Leu Pro	Ser		
	395	400	405		
Asn Val Cys Asn	Asp Glu Arg Met Ala	Ala Gly Asn Gly Asn	Glu		
	410	415	420		
Asp Asp Cys Trp	Asn Gly Lys Gly Lys	Ser Arg Tyr Leu Phe	Ala		
	425	430	435		
Val Thr Gly Asn	Gly Leu Ala Asn Gln	Gly Asn Asn Pro Glu	Val		
	440	445	450		
Gln Val Asp Thr	Ser Lys Pro Asp Ile	Leu Ile Leu Arg Gln	Ile		
	455	460	465		
Met Ala Leu Arg	Val Met Thr Ser Lys	Met Lys Asn Ala Tyr	Asn		
	470	475	480		
Gly Asn Asp Val	Asp Phe Phe Asp Ile	Ser Asp Glu Ser Ser	Gly		
	485	490	495		
Glu Gly Ser Gly	Ser Gly Cys Glu Tyr	Gln Gln Cys Pro Ser	Glu		
	500	505	510		
Phe Asp Tyr Asn	Ala Thr Asp His Ala	Gly Lys Ser Ala Asn	Glu		
	515	520	525		
Lys Ala Asp Ser	Ala Gly Val Arg Pro	Gly Ala Gln Ala Tyr	Leu		
	530	535	540		
Leu Thr Val Phe	Cys Ile Leu Phe Leu	Val Met Gln Arg Glu	Trp		
	545	550	555		

Arg

<210> 161  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 161  
 ctccgtggta aacccacag ccc 23

<210> 162  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 162  
tcacatcgat gggatccatg accg 24

<210> 163  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 163  
ggtctcgtga ctgtgaagcc atgttacaac tactgctcaa acatcatgag 50

<210> 164  
<211> 870  
<212> DNA  
<213> Homo sapiens

<400> 164  
ctcgcctca aatgggaacg ctggcctggg actaaagcat agaccaccag 50  
gctgagtatc ctgacctgag tcatccccag ggatcaggag cctccagcag 100  
ggaaccttcc attatattct tcaagcaact tacagctgca ccgacagttg 150  
cgatgaaagt tctaattctt tccctcctcc tgttgctgcc actaatgctg 200  
atgtccatgg tctctagcag cctgaatcca ggggtcgcca gaggccacag 250  
ggaccgaggc caggcttcta ggagatggct ccaggaaggc ggccaagaat 300  
gtgagtgcaa agattgggtc ctgagagccc cgagaagaaa attcatgaca 350  
gtgtctgggc tgccaaagaa gcagtgcccc tgtgatcatt tcaagggcaa 400  
tgtgaagaaa acaagacaec aaaggcacca cagaaagcca aacaagcatt 450  
ccagagcctg ccagcaattt ctcaaacaat gtcagctaag aagctttgct 500  
ctgcctttgt aggagctctg agcgcccact cttccaatta aacattctca 550  
gccaagaaga cagtgagcac acctaccaga cactcttctt ctcccacctc 600  
actctccac tgtaccaccc cctaaatcat tccagtgtc tcaaaaagca 650  
tgtttttcaa gatcattttg tttgttgctc tctctagtgt cttcttctct 700  
cgtcagtctt agcctgtgcc ctccccttac ccaggcttag gcttaattac 750  
ctgaaagatt ccaggaaact gtagcttcct agctagtgtc atttaacctt 800  
aatgcaatc aggaaagtag caaacagaag tcaataaata tttttaaatg 850  
tcaaaaaaaaa aaaaaaaaaa 870

<210> 165  
<211> 119  
<212> PRT  
<213> Homo sapiens

<400> 165  
Met Lys Val Leu Ile Ser Ser Leu Leu Leu Leu Pro Leu Met

1	5	10	15
Leu Met Ser Met Val Ser Ser Ser Leu Asn Pro Gly Val Ala Arg	20	25	30
Gly His Arg Asp Arg Gly Gln Ala Ser Arg Arg Trp Leu Gln Glu	35	40	45
Gly Gly Gln Glu Cys Glu Cys Lys Asp Trp Phe Leu Arg Ala Pro	50	55	60
Arg Arg Lys Phe Met Thr Val Ser Gly Leu Pro Lys Lys Gln Cys	65	70	75
Pro Cys Asp His Phe Lys Gly Asn Val Lys Lys Thr Arg His Gln	80	85	90
Arg His His Arg Lys Pro Asn Lys His Ser Arg Ala Cys Gln Gln	95	100	105
Phe Leu Lys Gln Cys Gln Leu Arg Ser Phe Ala Leu Pro Leu	110	115	

<210> 166  
 <211> 551  
 <212> DNA  
 <213> Homo sapiens

<400> 166  
 aatggctgtc ttagtacttc gcctgacagt tgtcctggga ctgcttgtct 50  
 tattcctgac ctgctatgca gacgacaaac cagacaagcc agacgacaag 100  
 ccagacgact cgggcaaaga cccaaagcca gacttcccca aattcctaag 150  
 cctcctgggc acagagatca ttgagaatgc agtcgagttc atcctccgct 200  
 ccatgtccag gagcacagga tttatggaat ttgatgataa tgaaggaaaa 250  
 cattcatcaa agtgacatcc tcaggacaca cccatgtggc tcctggacaa 300  
 tccaagagca gccaaatcct gcttttccag tttggctcca caagtcctcc 350  
 aggacagagc cctcaaagca actcccaacg agttctcagg attcaggctc 400  
 tggcttcaac caaacagaac tcattttgaa caccctgact gcatttttgc 450  
 ttttagaaaag ttagaataaa tatggcgctt tgggatcaca tagttgatgg 500  
 agaggaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 550  
 a 551

<210> 167  
 <211> 87  
 <212> PRT  
 <213> Homo sapiens

<400> 167  
 Met Ala Val Leu Val Leu Arg Leu Thr Val Val Leu Gly Leu Leu  
 1 5 10 15  
 Val Leu Phe Leu Thr Cys Tyr Ala Asp Asp Lys Pro Asp Lys Pro

	20		25		30
Asp Asp Lys Pro Asp Asp Ser Gly Lys Asp Pro Lys Pro Asp Phe					
	35		40		45
Pro Lys Phe Leu Ser Leu Leu Gly Thr Glu Ile Ile Glu Asn Ala					
	50		55		60
Val Glu Phe Ile Leu Arg Ser Met Ser Arg Ser Thr Gly Phe Met					
	65		70		75
Glu Phe Asp Asp Asn Glu Gly Lys His Ser Ser Lys					
	80		85		

<210> 168  
 <211> 1371  
 <212> DNA  
 <213> Homo sapiens

<400> 168  
 ggacgccagc gcctgcagag gctgagcagg gaaaaagcca gtgccccagc 50  
 ggaagcacag ctgagagctg gtctgccatg gacatcctgg tcccactcct 100  
 gcagctgctg gtgctgcttc ttaccctgcc cctgcacctc atggctctgc 150  
 tgggctgctg gcagcccctg tgcaaaagct acttccccta cctgatggcc 200  
 gtgctgactc ccaagagcaa ccgcaagatg gagagcaaga aacgggagct 250  
 cttcagccag ataaaggggc ttacaggagc ctccgggaaa gtggccctac 300  
 tggagctggg ctgcggaacc ggagccaact ttcagttcta cccaccgggc 350  
 tgcaggggtca cctgcctaga cccaaatccc cactttgaga agttcctgac 400  
 aaagagcatg gctgagaaca ggcacctcca atatgagcgg tttgtggtgg 450  
 ctcttgagga ggacatgaga cagctggctg atggctccat ggatgtggtg 500  
 gtctgcactc tgggtgctgtg ctctgtgcag agcccaagga aggtcctgca 550  
 ggaggtccgg agagtactga gaccgggagg tgtgctcttt ttctgggagc 600  
 atgtggcaga accatatgga agctgggcct tcatgtggca gcaagttttc 650  
 gagcccacct ggaaacacat tggggatggc tgctgcctca ccagagagac 700  
 ctggaaggat cttgagaacg cccagttctc cgaaatccaa atggaacgac 750  
 agccccctcc cttgaagtgg ctacctgttg ggccccacat catgggaaag 800  
 gctgtcaaac aatctttccc aagctccaag gcactcattt gtccttccc 850  
 cagcctccaa ttagaacaag ccaccacca gcctatctat cttccactga 900  
 gagggaccta gcagaatgag agaagacatt catgtaccac ctactagtcc 950  
 ctctctcccc aacctctgcc agggcaatct ctaacttcaa tccgccttc 1000  
 gacagtgaaa aagctctact tctacgtga cccagggagg aaacactagg 1050  
 accctgttgt atcctcaact gcaagtttct ggactagtct cccaacgttt 1100

gcctcccaat gttgtccctt tccttcgttc ccattggtaaa gctcctctcg 1150  
ctttcctcct gaggtacac ccattgcgtct ctaggaactg gtcacaaaag 1200  
tcattggtgcc tgcattccctg ccaagcccc ctgacctct ctccccacta 1250  
ccaccttctt cctgagctgg gggcaccagg gagaatcaga gatgctgggg 1300  
atgccagagc aagactcaaa gaggcagagg ttttgttctc aaatattttt 1350  
taataaatag acgaaaccac g 1371

<210> 169

<211> 277

<212> PRT

<213> Homo sapiens

<400> 169

Met	Asp	Ile	Leu	Val	Pro	Leu	Leu	Gln	Leu	Leu	Val	Leu	Leu	Leu	1	5	10	15
Thr	Leu	Pro	Leu	His	Leu	Met	Ala	Leu	Leu	Gly	Cys	Trp	Gln	Pro	20	25	30	
Leu	Cys	Lys	Ser	Tyr	Phe	Pro	Tyr	Leu	Met	Ala	Val	Leu	Thr	Pro	35	40	45	
Lys	Ser	Asn	Arg	Lys	Met	Glu	Ser	Lys	Lys	Arg	Glu	Leu	Phe	Ser	50	55	60	
Gln	Ile	Lys	Gly	Leu	Thr	Gly	Ala	Ser	Gly	Lys	Val	Ala	Leu	Leu	65	70	75	
Glu	Leu	Gly	Cys	Gly	Thr	Gly	Ala	Asn	Phe	Gln	Phe	Tyr	Pro	Pro	80	85	90	
Gly	Cys	Arg	Val	Thr	Cys	Leu	Asp	Pro	Asn	Pro	His	Phe	Glu	Lys	95	100	105	
Phe	Leu	Thr	Lys	Ser	Met	Ala	Glu	Asn	Arg	His	Leu	Gln	Tyr	Glu	110	115	120	
Arg	Phe	Val	Val	Ala	Pro	Gly	Glu	Asp	Met	Arg	Gln	Leu	Ala	Asp	125	130	135	
Gly	Ser	Met	Asp	Val	Val	Val	Cys	Thr	Leu	Val	Leu	Cys	Ser	Val	140	145	150	
Gln	Ser	Pro	Arg	Lys	Val	Leu	Gln	Glu	Val	Arg	Arg	Val	Leu	Arg	155	160	165	
Pro	Gly	Gly	Val	Leu	Phe	Phe	Trp	Glu	His	Val	Ala	Glu	Pro	Tyr	170	175	180	
Gly	Ser	Trp	Ala	Phe	Met	Trp	Gln	Gln	Val	Phe	Glu	Pro	Thr	Trp	185	190	195	
Lys	His	Ile	Gly	Asp	Gly	Cys	Cys	Leu	Thr	Arg	Glu	Thr	Trp	Lys	200	205	210	
Asp	Leu	Glu	Asn	Ala	Gln	Phe	Ser	Glu	Ile	Gln	Met	Glu	Arg	Gln	215	220	225	

Pro	Pro	Pro	Leu	Lys	Trp	Leu	Pro	Val	Gly	Pro	His	Ile	Met	Gly
				230					235					240
Lys	Ala	Val	Lys	Gln	Ser	Phe	Pro	Ser	Ser	Lys	Ala	Leu	Ile	Cys
				245					250					255
Ser	Phe	Pro	Ser	Leu	Gln	Leu	Glu	Gln	Ala	Thr	His	Gln	Pro	Ile
				260					265					270
Tyr	Leu	Pro	Leu	Arg	Gly	Thr								
				275										

<210> 170  
 <211> 1621  
 <212> DNA  
 <213> Homo sapiens

<400> 170  
 gtgggattta tttgagtgc agatcgtttt ctcaagtggg gtggaagttg 50  
 cctcatcgca ggcagatgtt ggggctttgt ccgaacagct cccctctgcc 100  
 agcttctgta gataaggggtt aaaaactaat atttatatga cagaagaaaa 150  
 agatgtcatt ccgtaaagta aacatcatca tcttggtcct ggctgttgct 200  
 ctcttcttac tggttttgca ccataacttc ctcaagctga gcagtttggt 250  
 aaggaatgag gttacagatt caggaattgt agggcctcaa cctatagact 300  
 ttgtcccaa tgctctccga catgcagtag atgggagaca agaggagatt 350  
 cctgtggtca tcgctgcac tgaagacagg cttggggggg ccattgcagc 400  
 tataaacagc attcagcaca acactcgctc caatgtgatt ttctacattg 450  
 ttactctcaa caatacagca gaccatctcc ggtcctggct caacagtgat 500  
 tccctgaaaa gcatcagata caaaattgtc aattttgacc ctaaactttt 550  
 ggaaggaaaa gtaaaggagg atcctgacca gggggaatcc atgaaacctt 600  
 taacctttgc aaggtttctac ttgccaatc tggttcccag cgcaaagaag 650  
 gccatataca tggatgatga tgtaattgtg caaggtgata ttcttgccct 700  
 ttacaataca gcactgaagc caggacatgc agctgcattt tcagaagatt 750  
 gtgattcagc ctctactaaa gttgtcatcc gtggagcagg aaaccagtac 800  
 aattacattg gctatcttga ctataaaaag gaaagaattc gtaagctttc 850  
 catgaaagcc agcacttgct catttaatcc tggagttttt gttgcaaacc 900  
 tgacggaatg gaaacgacag aatataacta accaactgga aaaatggatg 950  
 aaactcaatg tagaagaggg actgtatagc agaaccctgg ctggtagcat 1000  
 cacaacacct cctctgttta tcgtatttta tcaacagcac tctaccatcg 1050  
 atcctatgtg gaatgtccgc cacottgggt ccagtgctgg aaaacgatat 1100  
 tcacctcagt ttgtaaaggc tgccaagtta ctccattgga atggacattt 1150

gaagccatgg ggaaggactg cttcatatac tgatgtttgg gaaaaatgg 1200  
 atattccaga cccaacaggc aaattcaacc taatccgaag atataccgag 1250  
 atctcaaaca taaagtgaag cagaatttga actgtaagca agcattttctc 1300  
 aggaagtcct ggaagatagc atgcatggga agtaacagtt gctaggcttc 1350  
 aatgcctatc ggtagcaagc catggaaaaa gatgtgtcag ctaggtaaag 1400  
 atgacaaact gccctgtctg gcagtcagct tcccagacag actatagact 1450  
 ataaatatgt ctocatctgc cttaccaagt gttttcttac tacaatgctg 1500  
 aatgactgga aagaagaact gatatggcta gttcagctag ctggtacaga 1550  
 taattcaaaa ctgctgttgg ttttaatttt gtaacctgtg gcctgatctg 1600  
 taaataaaac ttacattttt c 1621

<210> 171  
 <211> 371  
 <212> PRT  
 <213> Homo sapiens

<400> 171  
 Met Ser Phe Arg Lys Val Asn Ile Ile Ile Leu Val Leu Ala Val  
 1 5 10 15  
 Ala Leu Phe Leu Leu Val Leu His His Asn Phe Leu Ser Leu Ser  
 20 25 30  
 Ser Leu Leu Arg Asn Glu Val Thr Asp Ser Gly Ile Val Gly Pro  
 35 40 45  
 Gln Pro Ile Asp Phe Val Pro Asn Ala Leu Arg His Ala Val Asp  
 50 55 60  
 Gly Arg Gln Glu Glu Ile Pro Val Val Ile Ala Ala Ser Glu Asp  
 65 70 75  
 Arg Leu Gly Gly Ala Ile Ala Ala Ile Asn Ser Ile Gln His Asn  
 80 85 90  
 Thr Arg Ser Asn Val Ile Phe Tyr Ile Val Thr Leu Asn Asn Thr  
 95 100 105  
 Ala Asp His Leu Arg Ser Trp Leu Asn Ser Asp Ser Leu Lys Ser  
 110 115 120  
 Ile Arg Tyr Lys Ile Val Asn Phe Asp Pro Lys Leu Leu Glu Gly  
 125 130 135  
 Lys Val Lys Glu Asp Pro Asp Gln Gly Glu Ser Met Lys Pro Leu  
 140 145 150  
 Thr Phe Ala Arg Phe Tyr Leu Pro Ile Leu Val Pro Ser Ala Lys  
 155 160 165  
 Lys Ala Ile Tyr Met Asp Asp Asp Val Ile Val Gln Gly Asp Ile  
 170 175 180  
 Leu Ala Leu Tyr Asn Thr Ala Leu Lys Pro Gly His Ala Ala Ala



	185	190	195
Phe Ser Glu Asp Cys Asp Ser Ala Ser Thr Lys Val Val Ile Arg	200	205	210
Gly Ala Gly Asn Gln Tyr Asn Tyr Ile Gly Tyr Leu Asp Tyr Lys	215	220	225
Lys Glu Arg Ile Arg Lys Leu Ser Met Lys Ala Ser Thr Cys Ser	230	235	240
Phe Asn Pro Gly Val Phe Val Ala Asn Leu Thr Glu Trp Lys Arg	245	250	255
Gln Asn Ile Thr Asn Gln Leu Glu Lys Trp Met Lys Leu Asn Val	260	265	270
Glu Glu Gly Leu Tyr Ser Arg Thr Leu Ala Gly Ser Ile Thr Thr	275	280	285
Pro Pro Leu Leu Ile Val Phe Tyr Gln Gln His Ser Thr Ile Asp	290	295	300
Pro Met Trp Asn Val Arg His Leu Gly Ser Ser Ala Gly Lys Arg	305	310	315
Tyr Ser Pro Gln Phe Val Lys Ala Ala Lys Leu Leu His Trp Asn	320	325	330
Gly His Leu Lys Pro Trp Gly Arg Thr Ala Ser Tyr Thr Asp Val	335	340	345
Trp Glu Lys Trp Tyr Ile Pro Asp Pro Thr Gly Lys Phe Asn Leu	350	355	360
Ile Arg Arg Tyr Thr Glu Ile Ser Asn Ile Lys	365	370	

<210> 172

<211> 585

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 71, 76, 86, 91, 162, 220, 269, 281

<223> unknown base

<400> 172

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gcattcagca caacactcgn tccaatgtga ttttctacat tgttactctc 250

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099163-11401

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<210> 173  
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<212> DNA  
<213> Homo sapiens

<400> 173  
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gacagaagaa aaagatgtca ttccgtaaag taaacatcat catcttggtc 400  
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<210> 175

<211> 87

<212> PRT

<213> Homo sapiens

<400> 175

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Asn Gly Leu Val Gly Phe Leu Leu Leu Leu Leu Trp Val Ile Leu  
20 25 30

Cys Trp Ala Cys His Ser Arg Leu Pro Thr Leu Thr Leu Ser Leu  
35 40 45

Asn Pro Val Pro Thr Pro Ala Leu Ala Pro Val Leu Arg Arg Pro  
50 55 60

His His Pro Arg Ser Pro Ala Met Lys Ala Ala Thr Cys Cys Ser  
65 70 75

Pro Glu Gly Pro Trp Pro Ser Leu Glu Pro Arg Thr  
80 85

<210> 176

<211> 1660

<212> DNA

<213> Homo sapiens

<400> 176

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atgatgttga caccctccac cgaattctaa gtggaatcat gtcgggaaga 200

gatacaatcc ttggcctgtg taccctcgca ttagccttgt ctttgccat 250

gatgtttacc ttcagattca tcaccacct tctgggtcac attttcattt 300

cattggttat tttgggattg ttgtttgtct gcggtgtttt atggtggctg 350

tattatgact ataccaacga cctcagcata gaattggaca cagaaaggga 400

aaatatgaag tgcgtgctgg ggtttgctat cgtatccaca ggcatcacgg 450

cagtgtgtgt cgtcttgatt tttgtttctca gaaagagaat aaaattgaca 500

gttgagcttt tccaaatcac aaataaagcc atcagcagtg ctcccttctt 550

gctgttccag ccactgtgga catttgccat cctcattttt ttctgggtcc 600

tctgggtggc tgtgtgtgtg agcctgggaa ctgcaggagc tgcccagggt 650

atggaaggcg gccaaagtga atataagccc ctttcgggca ttcggtacat 700

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cgtgccagca aatgactata gctggggcag tggttacttg ttatttcaac 800  
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 ctgctgtttc tgggtgtcttg acaaatacct gctccatctc aaccagaatg 1050  
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 ctgcttttga gacttcataa tttttctagg aaaggtgtta gtggtgtgtt 1200  
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<210> 177  
 <211> 445  
 <212> PRT  
 <213> Homo sapiens

<400> 177  
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 Leu Leu Val His Ile Phe Ile Ser Leu Val Ile Leu Gly Leu Leu  
 35 40 45  
 Phe Val Cys Gly Val Leu Trp Trp Leu Tyr Tyr Asp Tyr Thr Asn  
 50 55 60  
 Asp Leu Ser Ile Glu Leu Asp Thr Glu Arg Glu Asn Met Lys Cys  
 65 70 75  
 Val Leu Gly Phe Ala Ile Val Ser Thr Gly Ile Thr Ala Val Leu  
 80 85 90  
 Leu Val Leu Ile Phe Val Leu Arg Lys Arg Ile Lys Leu Thr Val

	95	100	105
Glu Leu Phe Gln	Ile Thr Asn Lys Ala 110	Ile Ser Ser Ala Pro 115	Phe 120
Leu Leu Phe Gln	Pro Leu Trp Thr Phe 125	Ala Ile Leu Ile Phe 130	Phe 135
Trp Val Leu Trp	Val Ala Val Leu Leu 140	Ser Leu Gly Thr Ala 145	Gly 150
Ala Ala Gln Val	Met Glu Gly Gly Gln 155	Val Glu Tyr Lys Pro 160	Leu 165
Ser Gly Ile Arg	Tyr Met Trp Ser Tyr 170	His Leu Ile Gly Leu 175	Ile 180
Trp Thr Ser Glu	Phe Ile Leu Ala Cys 185	Gln Gln Met Thr Ile 190	Ala 195
Gly Ala Val Val	Thr Cys Tyr Phe Asn 200	Arg Ser Lys Asn Asp 205	Pro 210
Pro Asp His Pro	Ile Leu Ser Ser Leu 215	Ser Ile Leu Phe Phe 220	Tyr 225
His Gln Gly Thr	Val Val Lys Gly Ser 230	Phe Leu Ile Ser Val 235	Val 240
Arg Ile Pro Arg	Ile Ile Val Met Tyr 245	Met Gln Asn Ala Leu 250	Lys 255
Glu Gln Gln His	Gly Ala Leu Ser Arg 260	Tyr Leu Phe Arg Cys 265	Cys 270
Tyr Cys Cys Phe	Trp Cys Leu Asp Lys 275	Tyr Leu Leu His Leu 280	Asn 285
Gln Asn Ala Tyr	Thr Thr Thr Ala Ile 290	Asn Gly Thr Asp Phe 295	Cys 300
Thr Ser Ala Lys	Asp Ala Phe Lys Ile 305	Leu Ser Lys Asn Ser 310	Ser 315
His Phe Thr Ser	Ile Asn Cys Phe Gly 320	Asp Phe Ile Ile Phe 325	Leu 330
Gly Lys Val Leu	Val Val Cys Phe Thr 335	Val Phe Gly Gly Leu 340	Met 345
Ala Phe Asn Tyr	Asn Arg Ala Phe Gln 350	Val Trp Ala Val Pro 355	Leu 360
Leu Leu Val Ala	Phe Phe Ala Tyr Leu 365	Val Ala His Ser Phe 370	Leu 375
Ser Val Phe Glu	Thr Val Leu Asp Ala 380	Leu Phe Leu Cys Phe 385	Ala 390
Val Asp Leu Glu	Thr Asn Asp Gly Ser 395	Ser Glu Lys Pro Tyr 400	Phe 405
Met Asp Gln Glu	Phe Leu Ser Phe Val 410	Lys Arg Ser Asn Lys 415	Leu 420

	410		415		420
Asn Asn Ala Arg	Ala Gln Gln Asp Lys His Ser Leu Arg Asn Glu				
	425		430		435
Glu Gly Thr Glu	Leu Gln Ala Ile Val Arg				
	440		445		

<210> 178  
 <211> 2773  
 <212> DNA  
 <213> Homo sapiens

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 atcctgagtt cattgtgaaa tgtccagcag gatgccaaga ccccaaatac 400  
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 gcaaacggcg attccgaatc cagaagcagc tcctggctga tgttgcccaa 1150  
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<210> 179



<211> 678  
 <212> PRT  
 <213> Homo sapiens

<400> 179

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Ala	Lys	Lys	Ile	Lys	Arg	Pro	Lys	Phe	Thr	Val	Pro	Gln	Ile	Asn	35	40	45	
Cys	Asp	Val	Lys	Ala	Gly	Lys	Ile	Ile	Asp	Pro	Glu	Phe	Ile	Val	50	55	60	
Lys	Cys	Pro	Ala	Gly	Cys	Gln	Asp	Pro	Lys	Tyr	His	Val	Tyr	Gly	65	70	75	
Thr	Asp	Val	Tyr	Ala	Ser	Tyr	Ser	Ser	Val	Cys	Gly	Ala	Ala	Val	80	85	90	
His	Ser	Gly	Val	Leu	Asp	Asn	Ser	Gly	Gly	Lys	Ile	Leu	Val	Arg	95	100	105	
Lys	Val	Ala	Gly	Gln	Ser	Gly	Tyr	Lys	Gly	Ser	Tyr	Ser	Asn	Gly	110	115	120	
Val	Gln	Ser	Leu	Ser	Leu	Pro	Arg	Trp	Arg	Glu	Ser	Phe	Ile	Val	125	130	135	
Leu	Glu	Ser	Lys	Pro	Lys	Lys	Gly	Val	Thr	Tyr	Pro	Ser	Ala	Leu	140	145	150	
Thr	Tyr	Ser	Ser	Ser	Lys	Ser	Pro	Ala	Ala	Gln	Ala	Gly	Glu	Thr	155	160	165	
Thr	Lys	Ala	Tyr	Gln	Arg	Pro	Pro	Ile	Pro	Gly	Thr	Thr	Ala	Gln	170	175	180	
Pro	Val	Thr	Leu	Met	Gln	Leu	Leu	Ala	Val	Thr	Val	Ala	Val	Ala	185	190	195	
Thr	Pro	Thr	Thr	Leu	Pro	Arg	Pro	Ser	Pro	Ser	Ala	Ala	Ser	Thr	200	205	210	
Thr	Ser	Ile	Pro	Arg	Pro	Gln	Ser	Val	Gly	His	Arg	Ser	Gln	Glu	215	220	225	
Met	Asp	Leu	Trp	Ser	Thr	Ala	Thr	Tyr	Thr	Ser	Ser	Gln	Asn	Arg	230	235	240	
Pro	Arg	Ala	Asp	Pro	Gly	Ile	Gln	Arg	Gln	Asp	Pro	Ser	Gly	Ala	245	250	255	
Ala	Phe	Gln	Lys	Pro	Val	Gly	Ala	Asp	Val	Ser	Leu	Gly	Leu	Val	260	265	270	
Pro	Lys	Glu	Glu	Leu	Ser	Thr	Gln	Ser	Leu	Glu	Pro	Val	Ser	Leu	275	280	285	
Gly	Asp	Pro	Asn	Cys	Lys	Ile	Asp	Leu	Ser	Phe	Leu	Ile	Asp	Gly				

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290	295	300
Ser Thr Ser Ile Gly Lys Arg Arg Phe	Arg Ile Gln Lys Gln Leu	
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Leu Ala Asp Val Ala Gln Ala Leu Asp	Ile Gly Pro Ala Gly Pro	
320	325	330
Leu Met Gly Val Val Gln Tyr Gly Asp	Asn Pro Ala Thr His Phe	
335	340	345
Asn Leu Lys Thr His Thr Asn Ser Arg	Asp Leu Lys Thr Ala Ile	
350	355	360
Glu Lys Ile Thr Gln Arg Gly Gly Leu	Ser Asn Val Gly Arg Ala	
365	370	375
Ile Ser Phe Val Thr Lys Asn Phe Phe	Ser Lys Ala Asn Gly Asn	
380	385	390
Arg Ser Gly Ala Pro Asn Val Val Val	Val Met Val Asp Gly Trp	
395	400	405
Pro Thr Asp Lys Val Glu Glu Ala Ser	Arg Leu Ala Arg Glu Ser	
410	415	420
Gly Ile Asn Ile Phe Phe Ile Thr Ile	Glu Gly Ala Ala Glu Asn	
425	430	435
Glu Lys Gln Tyr Val Val Glu Pro Asn	Phe Ala Asn Lys Ala Val	
440	445	450
Cys Arg Thr Asn Gly Phe Tyr Ser Leu	His Val Gln Ser Trp Phe	
455	460	465
Gly Leu His Lys Thr Leu Gln Pro Leu	Val Lys Arg Val Cys Asp	
470	475	480
Thr Asp Arg Leu Ala Cys Ser Lys Thr	Cys Leu Asn Ser Ala Asp	
485	490	495
Ile Gly Phe Val Ile Asp Gly Ser Ser	Ser Val Gly Thr Gly Asn	
500	505	510
Phe Arg Thr Val Leu Gln Phe Val Thr	Asn Leu Thr Lys Glu Phe	
515	520	525
Glu Ile Ser Asp Thr Asp Thr Arg Ile	Gly Ala Val Gln Tyr Thr	
530	535	540
Tyr Glu Gln Arg Leu Glu Phe Gly Phe	Asp Lys Tyr Ser Ser Lys	
545	550	555
Pro Asp Ile Leu Asn Ala Ile Lys Arg	Val Gly Tyr Trp Ser Gly	
560	565	570
Gly Thr Ser Thr Gly Ala Ala Ile Asn	Phe Ala Leu Glu Gln Leu	
575	580	585
Phe Lys Lys Ser Lys Pro Asn Lys Arg	Lys Leu Met Ile Leu Ile	
590	595	600
Thr Asp Gly Arg Ser Tyr Asp Asp Val	Arg Ile Pro Ala Met Ala	

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605					610					615				
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620					625					630				
Ala	Ala	Gln	Glu	Glu	Leu	Glu	Val	Ile	Ala	Thr	His	Pro	Ala	Arg
635					640					645				
Asp	His	Ser	Phe	Phe	Val	Asp	Glu	Phe	Asp	Asn	Leu	His	Gln	Tyr
650					655					660				
Val	Pro	Arg	Ile	Ile	Gln	Asn	Ile	Cys	Thr	Glu	Phe	Asn	Ser	Gln
665					670					675				
Pro Arg Asn														

<210> 180  
<211> 1759  
<212> DNA  
<213> Homo sapiens

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 atcataaaa 1759

<210> 181  
 <211> 541  
 <212> PRT  
 <213> Homo sapiens

<400> 181  
 Met Pro Phe Arg Leu Leu Ile Pro Leu Gly Leu Leu Cys Ala Leu  
 1 5 10 15  
 Leu Pro Gln His His Gly Ala Pro Gly Pro Asp Gly Ser Ala Pro  
 20 25 30  
 Asp Pro Ala His Tyr Ser Phe Ser Leu Thr Leu Ile Asp Ala Leu  
 35 40 45  
 Asp Thr Leu Leu Ile Leu Gly Asn Val Ser Glu Phe Gln Arg Val  
 50 55 60  
 Val Glu Val Leu Gln Asp Ser Val Asp Phe Asp Ile Asp Val Asn  
 65 70 75  
 Ala Ser Val Phe Glu Thr Asn Ile Arg Val Val Gly Gly Leu Leu  
 80 85 90  
 Ser Ala His Leu Leu Ser Lys Lys Ala Gly Val Glu Val Glu Ala  
 95 100 105  
 Gly Trp Pro Cys Ser Gly Pro Leu Leu Arg Met Ala Glu Glu Ala  
 110 115 120  
 Ala Arg Lys Leu Leu Pro Ala Phe Gln Thr Pro Thr Gly Met Pro

	125		130		135
Tyr Gly Thr Val	Asn Leu Leu His Gly	Val Asn Pro Gly Glu Thr			
	140	145			150
Pro Val Thr Cys	Thr Ala Gly Ile Gly	Thr Phe Ile Val Glu Phe			
	155	160			165
Ala Thr Leu Ser	Ser Leu Thr Gly Asp	Pro Val Phe Glu Asp Val			
	170	175			180
Ala Arg Val Ala	Leu Met Arg Leu Trp	Glu Ser Arg Ser Asp Ile			
	185	190			195
Gly Leu Val Gly	Asn His Ile Asp Val	Leu Thr Gly Lys Trp Val			
	200	205			210
Ala Gln Asp Ala	Gly Ile Gly Ala Gly	Val Asp Ser Tyr Phe Glu			
	215	220			225
Tyr Leu Val Lys	Gly Ala Ile Leu Leu	Gln Asp Lys Lys Leu Met			
	230	235			240
Ala Met Phe Leu	Glu Tyr Asn Lys Ala	Ile Arg Asn Tyr Thr Arg			
	245	250			255
Phe Asp Asp Trp	Tyr Leu Trp Val Gln	Met Tyr Lys Gly Thr Val			
	260	265			270
Ser Met Pro Val	Phe Gln Ser Leu Glu	Ala Tyr Trp Pro Gly Leu			
	275	280			285
Gln Ser Leu Ile	Gly Asp Ile Asp Asn	Ala Met Arg Thr Phe Leu			
	290	295			300
Asn Tyr Tyr Thr	Val Trp Lys Gln Phe	Gly Gly Leu Pro Glu Phe			
	305	310			315
Tyr Asn Ile Pro	Gln Gly Tyr Thr Val	Glu Lys Arg Glu Gly Tyr			
	320	325			330
Pro Leu Arg Pro	Glu Leu Ile Glu Ser	Ala Met Tyr Leu Tyr Arg			
	335	340			345
Ala Thr Gly Asp	Pro Thr Leu Leu Glu	Leu Gly Arg Asp Ala Val			
	350	355			360
Glu Ser Ile Glu	Lys Ile Ser Lys Val	Glu Cys Gly Phe Ala Thr			
	365	370			375
Ile Lys Asp Leu	Arg Asp His Lys Leu	Asp Asn Arg Met Glu Ser			
	380	385			390
Phe Phe Leu Ala	Glu Thr Val Lys Tyr	Leu Tyr Leu Leu Phe Asp			
	395	400			405
Pro Thr Asn Phe	Ile His Asn Asn Gly	Ser Thr Phe Asp Ala Val			
	410	415			420
Ile Thr Pro Tyr	Gly Glu Cys Ile Leu	Gly Ala Gly Gly Tyr Ile			
	425	430			435
Phe Asn Thr Glu	Ala His Pro Ile Asp	Leu Ala Ala Leu His Cys			

	440		445		450
Cys Gln Arg Leu	Lys Glu Glu Gln Trp	Glu Val Glu Asp Leu	Met		
	455	460	465		
Arg Glu Phe Tyr	Ser Leu Lys Arg Ser	Arg Ser Lys Phe Gln	Lys		
	470	475	480		
Asn Thr Val Ser	Ser Gly Pro Trp Glu	Pro Pro Ala Arg Pro	Gly		
	485	490	495		
Thr Leu Phe Ser	Pro Glu Asn His Asp	Gln Ala Arg Glu Arg	Lys		
	500	505	510		
Pro Ala Lys Gln	Lys Val Pro Leu Leu	Ser Cys Pro Ser Gln	Pro		
	515	520	525		
Phe Thr Ser Lys	Leu Ala Leu Leu Gly	Gln Val Phe Leu Asp	Ser		
	530	535	540		

Ser

<210> 182  
 <211> 2056  
 <212> DNA  
 <213> Homo sapiens

<400> 182  
 aaagttacat tttctctgga actctcctag gccactccct gctgatgcaa 50  
 catctggggtt tgggcagaaa ggagggtgct tcggagcccg ccctttctga 100  
 gcttcctggg cgggctctag aacaattcag gcttcgctgc gactcagacc 150  
 tcagctcaa catatgcatt ctgaagaaag atggctgaga tggacagaat 200  
 gctttatttt ggaaagaaac aatgttctag gtcaaactga gtctaccaa 250  
 tgcagacttt cacaatgggt ctagaagaaa tctggacaag tcttttcatg 300  
 tgggtttttct acgcattgat tccatgtttg ctacagatg aagtggccat 350  
 tctgcctgcc cctcagaacc tctctgtact ctcaaccaac atgaagcatc 400  
 tcttgatgtg gagcccagtg atcgcgctg gagaaacagt gtactattct 450  
 gtcgaatacc agggggagta cgagagcctg tacacgagcc acatctggat 500  
 cccagcagc tgggtgtcac tcaactgaagg tcctgagtgt gatgtcactg 550  
 atgacatcac ggccaactgtg ccatacaacc ttcgtgtcag ggccacattg 600  
 ggctcacaga cctcagcctg gagcatcctg aagcatccct ttaatagaaa 650  
 ctcaaccatc cttacccgac ctgggatgga gatcaccaa gatggcttcc 700  
 acctggttat tgagctggag gacctggggc ccagtttga gttccttgtg 750  
 goctactgga ggaggagcc tggtgccgag gaacatgtca aaatggtgag 800  
 gagtgggggt attccagtgc acctagaaac catggagcca ggggctgcat 850

actgtgtgaa ggcccagaca ttcgtgaagg ccattgggag gtacagcgcc 900  
 ttcagccaga cagaatgtgt ggaggtgcaa ggagaggcca tccccctggt 950  
 actggccctg tttgcctttg ttggcttcat gctgatcctt gtggtcgtgc 1000  
 cactgttcgt ctggaaaatg ggccggctgc tccagtactc ctgttgcccc 1050  
 gtggtggtcc tcccagacac cttgaaaata accaattcac cccagaagtt 1100  
 aatcagctgc agaagggagg aggtggatgc ctgtgccacg gctgtgatgt 1150  
 ctctgagga actcctcagg gcctggatct cataggtttg cggaagggcc 1200  
 caggtgaagc cgagaacctg gtctgcatga catggaaacc atgaggggac 1250  
 aagttgtgtt tctgttttcc gccacggaca agggatgaga gaagtaggaa 1300  
 gagcctgttg tctacaagtc tagaagcaac catcagaggc aggggtggttt 1350  
 gtctaacaga aactgactg aggccttaggg gatgtgacct ctagactggg 1400  
 ggctgccact tgctggctga gcaaccctgg gaaaagtgc ttcattccctt 1450  
 cggtcctaag ttttctcatc tgtaatgggg gaattaccta cacacctgct 1500  
 aaacacacac acacagagtc tctctctata tatacacacg tacacataaa 1550  
 tacaccagc acttgcaagg ctgagaggaa actggtgaca ctctacagtc 1600  
 tgactgattc agtgtttctg gagagcagga cataaatgta tgatgagaat 1650  
 gatcaaggac tctacacact gggtggtctg gagagcccac tttcccagaa 1700  
 taatccttga gagaaaagga atcatgggag caatgggtgtt gagttcactt 1750  
 caagcccaat gccggtgcag aggggaatgg cttagcgagc tctacagtag 1800  
 gtgacctgga ggaaggtcac agccacactg aaaatgggat gtgcatgaac 1850  
 acggaggatc catgaactac tgtaaagtgt tgacagtgtg tgcacactgc 1900  
 agacagcagg tgaaatgtat gtgtgcaatg cgacgagaat gcagaagtca 1950  
 gtaacatgtg catgtttgtt gtgctccttt tttctgttgg taaagtacag 2000  
 aattcagcaa ataaaaaggg ccacctggc caaaagcggg aaaaaaaaaa 2050  
 aaaaaa 2056

<210> 183  
 <211> 311  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> Signal peptide  
 <222> 1-29  
 <223> Signal peptide

<220>  
 <221> N-glycosylation sites  
 <222> 40-43, 134-137

<223> N-glycosylation sites.

<220>

<221> Tissue factor proteins homology

<222> 92-119

<223> Tissue factor proteins homology

<220>

<221> Transmembrane domain

<222> 230-255

<223> Transmembrane domain

<220>

<221> Integrins alpha chain protein homology

<222> 232-262

<223> Integrins alpha chain protein homology

<400> 183

Met	Gln	Thr	Phe	Thr	Met	Val	Leu	Glu	Glu	Ile	Trp	Thr	Ser	Leu	
1				5					10					15	
Phe	Met	Trp	Phe	Phe	Tyr	Ala	Leu	Ile	Pro	Cys	Leu	Leu	Thr	Asp	
				20					25					30	
Glu	Val	Ala	Ile	Leu	Pro	Ala	Pro	Gln	Asn	Leu	Ser	Val	Leu	Ser	
				35					40					45	
Thr	Asn	Met	Lys	His	Leu	Leu	Met	Trp	Ser	Pro	Val	Ile	Ala	Pro	
				50					55					60	
Gly	Glu	Thr	Val	Tyr	Tyr	Ser	Val	Glu	Tyr	Gln	Gly	Glu	Tyr	Glu	
				65					70					75	
Ser	Leu	Tyr	Thr	Ser	His	Ile	Trp	Ile	Pro	Ser	Ser	Trp	Cys	Ser	
				80					85					90	
Leu	Thr	Glu	Gly	Pro	Glu	Cys	Asp	Val	Thr	Asp	Asp	Ile	Thr	Ala	
				95					100					105	
Thr	Val	Pro	Tyr	Asn	Leu	Arg	Val	Arg	Ala	Thr	Leu	Gly	Ser	Gln	
				110					115					120	
Thr	Ser	Ala	Trp	Ser	Ile	Leu	Lys	His	Pro	Phe	Asn	Arg	Asn	Ser	
				125					130					135	
Thr	Ile	Leu	Thr	Arg	Pro	Gly	Met	Glu	Ile	Thr	Lys	Asp	Gly	Phe	
				140					145					150	
His	Leu	Val	Ile	Glu	Leu	Glu	Asp	Leu	Gly	Pro	Gln	Phe	Glu	Phe	
				155					160					165	
Leu	Val	Ala	Tyr	Trp	Arg	Arg	Glu	Pro	Gly	Ala	Glu	Glu	His	Val	
				170					175					180	
Lys	Met	Val	Arg	Ser	Gly	Gly	Ile	Pro	Val	His	Leu	Glu	Thr	Met	
				185					190					195	
Glu	Pro	Gly	Ala	Ala	Tyr	Cys	Val	Lys	Ala	Gln	Thr	Phe	Val	Lys	
				200					205					210	
Ala	Ile	Gly	Arg	Tyr	Ser	Ala	Phe	Ser	Gln	Thr	Glu	Cys	Val	Glu	
				215					220					225	



Val	Gln	Gly	Glu	Ala	Ile	Pro	Leu	Val	Leu	Ala	Leu	Phe	Ala	Phe
				230					235					240
Val	Gly	Phe	Met	Leu	Ile	Leu	Val	Val	Val	Pro	Leu	Phe	Val	Trp
				245					250					255
Lys	Met	Gly	Arg	Leu	Leu	Gln	Tyr	Ser	Cys	Cys	Pro	Val	Val	Val
				260					265					270
Leu	Pro	Asp	Thr	Leu	Lys	Ile	Thr	Asn	Ser	Pro	Gln	Lys	Leu	Ile
				275					280					285
Ser	Cys	Arg	Arg	Glu	Glu	Val	Asp	Ala	Cys	Ala	Thr	Ala	Val	Met
				290					295					300
Ser	Pro	Glu	Glu	Leu	Leu	Arg	Ala	Trp	Ile	Ser				
				305					310					

<210> 184  
 <211> 808  
 <212> DNA  
 <213> Homo sapiens  
  
 <220>  
 <221> unsure  
 <222> 654, 711, 748  
 <223> unknown base

<400> 184  
 tctgtctgat gcacatctgg gtttggcaaa aggaggttgc ttcgagccgc 50  
 cctttctagc ttcttgccg gctctagaac aattcaggct tcgctgcgac 100  
 tagacctcag ctccaacata tgcattctga agaaagatgg ctgagatgac 150  
 agaatgcttt attttggaaa gaaacaatgt tctaggtcaa actgagtcta 200  
 ccaaatgcag actttcacaa tggttctaga agaaatctgg acaagtcttt 250  
 tcatgtgggtt ttctacgca ttgattccat gtttgctcac agatgaagtg 300  
 gccattctgc ctgcccctca gaacctctct gtactctcaa ccaacatgaa 350  
 gcatctcttg atgtggagcc cagtgatcgc gcctggagaa acagtgtact 400  
 attctgtcga ataccagggg gactacgaga gcctgtacac gagccacatc 450  
 tggatcccca gcagctgggtg ctactcact gaaggtcctg agtgtgatgt 500  
 cactgatgac atcacggcca ctgtgccata caacctttgt gtcagggccca 550  
 cattgggctc acagacctca gcctggagca tcttgaagca tccctttaat 600  
 agaaactcaa ccatccttac ccgacctggg atggagatca ccaaagatgg 650  
 cttncacctg gttattgagc tggaggacct ggggccccag tttgagttcc 700  
 ttgtggccta ntggaggagg ggcgaacccc ttgcggcgca aggggttngc 750  
 gaacccttg cggccgctgg ggtatctctc gagaaaagag aggcccaata 800  
 tgaccac 808

<210> 185  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 185  
aggcttcgct gcgactagac ctc 23

<210> 186  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 186  
ccaggtcggg taaggatggt tgag 24

<210> 187  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 187  
tttctacgca ttgattccat gtttgcac agatgaagtg gccattctgc 50

<210> 188  
<211> 1227  
<212> DNA  
<213> Homo sapiens

<400> 188  
cggacgcgtg ggccgccacc tccggaacaa gccatggtgg cggcgacggt 50  
ggcagcggcg tggctgctcc tgtgggctgc ggcctgcgcg cagcaggagc 100  
aggacttcta cgacttcaag gcggtcaaca tccggggcaa actggtgtcg 150  
ctggagaagt accgcggatc ggtgtccctg gtggtgaatg tggccagcga 200  
gtgcggcttc acagaccagc actaccgagc cctgcagcag ctgcagcgag 250  
acctgggccc ccaccacttt aacgtgctcg ctttcccctg caaccagttt 300  
ggccaacagg agcctgacag caacaaggag attgagagct ttgcccgccg 350  
cacctacagt gtctcattcc ccatgtttag caagattgca gtcaccggtg 400  
ctggtgcccc tctgccttc aagtacctgg cccagacttc tgggaaggag 450  
cccacctgga acttctggaa gtacctagta gcccagatg gaaagggtgt 500  
aggggcttgg gacccaactg tgtcagtgga ggaggtcaga ccccagatca 550  
cagcgctcgt gaggaagctc atcctactga agcgagaaga cttataacca 600

ccgcgtctcc tctccacca cctcatcccg cccacctgtg tggggctgac 650  
 caatgcaaac tcaaattggtg cttcaaagg agagaccac tgactctcct 700  
 tcctttactc ttatgccatt ggtcccatca ttcttgtggg ggaaaaattc 750  
 tagtattttg attatttgaa tcttacagca acaaatagga actcctggcc 800  
 aatgagagct cttgaccagt gaatcaccag ccgatacgaa cgtcttgcca 850  
 acaaaaatgt gtggcaaata gaagtatatc aagcaataat ctcccaccca 900  
 aggcttctgt aaactgggac caatgattac ctcatagggc tgttgtgagg 950  
 attaggatga aatacctgtg aaagtgccta ggcagtgcc gccaaatagg 1000  
 aggcattcaa tgaacatttt ttgcatataa accaaaaaat aacttgttat 1050  
 caataaaaaac ttgcatccaa catgaatttc cagccgatga taatccaggc 1100  
 caaaggttta gttgttgta tttcctctgt attattttct tcattacaaa 1150  
 agaaatgcaa gttcattgta acaatccaaa caatacctca cgatataaaa 1200  
 taaaaatgaa agtatcctcc tcaaaaa 1227

<210> 189

<211> 187

<212> PRT

<213> Homo sapiens

<400> 189

Met	Val	Ala	Ala	Thr	Val	Ala	Ala	Ala	Trp	Leu	Leu	Leu	Trp	Ala
1				5					10					15
Ala	Ala	Cys	Ala	Gln	Gln	Glu	Gln	Asp	Phe	Tyr	Asp	Phe	Lys	Ala
				20					25					30
Val	Asn	Ile	Arg	Gly	Lys	Leu	Val	Ser	Leu	Glu	Lys	Tyr	Arg	Gly
				35					40					45
Ser	Val	Ser	Leu	Val	Val	Asn	Val	Ala	Ser	Glu	Cys	Gly	Phe	Thr
				50					55					60
Asp	Gln	His	Tyr	Arg	Ala	Leu	Gln	Gln	Leu	Gln	Arg	Asp	Leu	Gly
				65					70					75
Pro	His	His	Phe	Asn	Val	Leu	Ala	Phe	Pro	Cys	Asn	Gln	Phe	Gly
				80					85					90
Gln	Gln	Glu	Pro	Asp	Ser	Asn	Lys	Glu	Ile	Glu	Ser	Phe	Ala	Arg
				95					100					105
Arg	Thr	Tyr	Ser	Val	Ser	Phe	Pro	Met	Phe	Ser	Lys	Ile	Ala	Val
				110					115					120
Thr	Gly	Thr	Gly	Ala	His	Pro	Ala	Phe	Lys	Tyr	Leu	Ala	Gln	Thr
				125					130					135
Ser	Gly	Lys	Glu	Pro	Thr	Trp	Asn	Phe	Trp	Lys	Tyr	Leu	Val	Ala
				140					145					150
Pro	Asp	Gly	Lys	Val	Val	Gly	Ala	Trp	Asp	Pro	Thr	Val	Ser	Val

	155	160	165
Glu Glu Val Arg	Pro Gln Ile Thr Ala	Leu Val Arg Lys Leu	Ile
	170	175	180
Leu Leu Lys Arg	Glu Asp Leu		
	185		

<210> 190  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 190  
 gcaggacttc tacgacttca aggc 24

<210> 191  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 191  
 agtctgggcc aggtacttga aggc 24

<210> 192  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 192  
 caacatccgg ggcaaactgg tgctcgctgga gaagtaccgc ggatcggtgt 50

<210> 193  
 <211> 2187  
 <212> DNA  
 <213> Homo sapiens

<400> 193  
 cggacgcgtg ggcgggccgg gacgcagggc aaagcgagcc atggctgtct 50  
 acgtcgggat gctgcgcctg gggaggtgt ggcggggag ctcgggggtg 100  
 ctggggggccc gggccgccct ctctcggagt tggcaggaag ccaggttgca 150  
 ggggtgtccgc ttcctcagtt ccagagaggt ggatcgcatg gtctccacgc 200  
 ccatcggagg cctcagctac gttcaggggt gcacaaaaa gcatcttaac 250  
 agcaagactg tgggccagtg cctggagacc acagcacaga ggggtcccaga 300  
 acgagaggcc ttggtcgtcc tccatgaaga cgtcagggtg acctttgccc 350  
 aactcaagga ggaggtggac aaagctgctt ctggcctcct gagcattggc 400

ctctgcaaag gtgaccggct gggcatgtgg ggacctaact cctatgcatg 450  
 ggtgctcatg cagttggcca ccgcccaggc gggcatcatt ctggtgtctg 500  
 tgaaccacagc ctaccaggct atggaactgg agtatgtcct caagaagggtg 550  
 ggctgcaagg cccttgtgtt cccaagcaa ttcaagacc agcaatacta 600  
 caacgtcctg aagcagatct gtccagaagt ggagaatgcc cagccagggg 650  
 ccttgaagag tcagaggctc ccagatctga ccacagtcac ctcggtggat 700  
 gcccctttgc cggggaccct gtcctggat gaagtgggtg cggctggcag 750  
 cacacggcag catctggacc agtccaata caaccagcag ttctgtcct 800  
 gccatgacc catcaacatc cagttcacct cggggacaac aggagcccc 850  
 aagggggcca ccctctccca ctacaacatt gtcaacaact ccaacatttt 900  
 aggagagcgc ctgaaactgc atgagaagac accagagcag ttgcggatga 950  
 tctgccccaa cccctgtac cattgcctgg gttccgtggc aggacaaatg 1000  
 atgtgtctga tgtacggtgc caccctcatc ctggcctctc ccatcttcaa 1050  
 tggcaagaag gcaactggagg ccatcagcag agagagaggc accttctctg 1100  
 atggtacccc cacgatgttc gtggacatcc tgaaccagcc agacttctcc 1150  
 agttatgaca tctcgaccat gtgtggagggt gtcattgctg ggtcccctgc 1200  
 acctccagag ttgatccgag ccatcatcaa caagataaat atgaaggacc 1250  
 tgggtggttc ttatggaacc acagagaaca gtcccgtgac attcgcgcac 1300  
 ttccctgagg acaactgtgga gcagaaggca gaaagcgtgg gcagaattat 1350  
 gcctcacacg gaggcccgga tcatgaacat ggaggcaggg acgctggcaa 1400  
 agctgaacac gcccggggag ctgtgcatcc gaggggtactg cgtcatgctg 1450  
 ggctactggg gtgagcctca gaagacagag gaagcagtgg atcaggacaa 1500  
 gtggtattgg acaggagatg togcacaaat gaatgagcag ggcttctgca 1550  
 agatcgtggg ccgctctaag gatgatgata tccgggggtg tgagaacatc 1600  
 taccocgcag agctcgagga cttctttcac acacaccga aggtgcagga 1650  
 agtgcagggt gtgggagtga aggacgatcg gatgggggaa gagatttctg 1700  
 cctgcattcg gctgaaggac ggggaggaga ccacggtgga ggagataaaa 1750  
 gctttctgca aagggaagat ctctcacttc aagattccga agtacatcgt 1800  
 gtttgtcaca aactaccccc tcaccatttc aggaaagatc cagaaattca 1850  
 aacttcgaga gcagatggaa cgacatctaa atctgtgaat aaagcagcag 1900  
 gcctgtcctg gccgggtggc ttgactctct cctgtcagaa tgcaacctgg 1950  
 ctttatgcac ctagatgtcc ccagcaccca gttctgagcc aggacatca 2000

aatgtcaagg aattgactga acgaactaag agctcctgga tgggtccggg 2050  
aactgcctg ggcacaaggt gccaaaaggc aggcagcctg cccaggccct 2100  
ccctcctgtc catccccac attccctgt ctgtccttgt gatttggcat 2150  
aaagagcttc tgttttcttt gaaaaaaaaa aaaaaaa 2187

<210> 194  
<211> 615  
<212> PRT  
<213> Homo sapiens

<400> 194  
Met Ala Val Tyr Val Gly Met Leu Arg Leu Gly Arg Leu Cys Ala  
1 5 10 15  
Gly Ser Ser Gly Val Leu Gly Ala Arg Ala Ala Leu Ser Arg Ser  
20 25 30  
Trp Gln Glu Ala Arg Leu Gln Gly Val Arg Phe Leu Ser Ser Arg  
35 40 45  
Glu Val Asp Arg Met Val Ser Thr Pro Ile Gly Gly Leu Ser Tyr  
50 55 60  
Val Gln Gly Cys Thr Lys Lys His Leu Asn Ser Lys Thr Val Gly  
65 70 75  
Gln Cys Leu Glu Thr Thr Ala Gln Arg Val Pro Glu Arg Glu Ala  
80 85 90  
Leu Val Val Leu His Glu Asp Val Arg Leu Thr Phe Ala Gln Leu  
95 100 105  
Lys Glu Glu Val Asp Lys Ala Ala Ser Gly Leu Leu Ser Ile Gly  
110 115 120  
Leu Cys Lys Gly Asp Arg Leu Gly Met Trp Gly Pro Asn Ser Tyr  
125 130 135  
Ala Trp Val Leu Met Gln Leu Ala Thr Ala Gln Ala Gly Ile Ile  
140 145 150  
Leu Val Ser Val Asn Pro Ala Tyr Gln Ala Met Glu Leu Glu Tyr  
155 160 165  
Val Leu Lys Lys Val Gly Cys Lys Ala Leu Val Phe Pro Lys Gln  
170 175 180  
Phe Lys Thr Gln Gln Tyr Tyr Asn Val Leu Lys Gln Ile Cys Pro  
185 190 195  
Glu Val Glu Asn Ala Gln Pro Gly Ala Leu Lys Ser Gln Arg Leu  
200 205 210  
Pro Asp Leu Thr Thr Val Ile Ser Val Asp Ala Pro Leu Pro Gly  
215 220 225  
Thr Leu Leu Leu Asp Glu Val Val Ala Ala Gly Ser Thr Arg Gln  
230 235 240  
His Leu Asp Gln Leu Gln Tyr Asn Gln Gln Phe Leu Ser Cys His

245										250					255				
Asp	Pro	Ile	Asn	Ile	Gln	Phe	Thr	Ser	Gly	Thr	Thr	Gly	Ser	Pro					
				260					265					270					
Lys	Gly	Ala	Thr	Leu	Ser	His	Tyr	Asn	Ile	Val	Asn	Asn	Ser	Asn					
				275					280					285					
Ile	Leu	Gly	Glu	Arg	Leu	Lys	Leu	His	Glu	Lys	Thr	Pro	Glu	Gln					
				290					295					300					
Leu	Arg	Met	Ile	Leu	Pro	Asn	Pro	Leu	Tyr	His	Cys	Leu	Gly	Ser					
				305					310					315					
Val	Ala	Gly	Thr	Met	Met	Cys	Leu	Met	Tyr	Gly	Ala	Thr	Leu	Ile					
				320					325					330					
Leu	Ala	Ser	Pro	Ile	Phe	Asn	Gly	Lys	Lys	Ala	Leu	Glu	Ala	Ile					
				335					340					345					
Ser	Arg	Glu	Arg	Gly	Thr	Phe	Leu	Tyr	Gly	Thr	Pro	Thr	Met	Phe					
				350					355					360					
Val	Asp	Ile	Leu	Asn	Gln	Pro	Asp	Phe	Ser	Ser	Tyr	Asp	Ile	Ser					
				365					370					375					
Thr	Met	Cys	Gly	Gly	Val	Ile	Ala	Gly	Ser	Pro	Ala	Pro	Pro	Glu					
				380					385					390					
Leu	Ile	Arg	Ala	Ile	Ile	Asn	Lys	Ile	Asn	Met	Lys	Asp	Leu	Val					
				395					400					405					
Val	Ala	Tyr	Gly	Thr	Thr	Glu	Asn	Ser	Pro	Val	Thr	Phe	Ala	His					
				410					415					420					
Phe	Pro	Glu	Asp	Thr	Val	Glu	Gln	Lys	Ala	Glu	Ser	Val	Gly	Arg					
				425					430					435					
Ile	Met	Pro	His	Thr	Glu	Ala	Arg	Ile	Met	Asn	Met	Glu	Ala	Gly					
				440					445					450					
Thr	Leu	Ala	Lys	Leu	Asn	Thr	Pro	Gly	Glu	Leu	Cys	Ile	Arg	Gly					
				455					460					465					
Tyr	Cys	Val	Met	Leu	Gly	Tyr	Trp	Gly	Glu	Pro	Gln	Lys	Thr	Glu					
				470					475					480					
Glu	Ala	Val	Asp	Gln	Asp	Lys	Trp	Tyr	Trp	Thr	Gly	Asp	Val	Ala					
				485					490					495					
Thr	Met	Asn	Glu	Gln	Gly	Phe	Cys	Lys	Ile	Val	Gly	Arg	Ser	Lys					
				500					505					510					
Asp	Met	Ile	Ile	Arg	Gly	Gly	Glu	Asn	Ile	Tyr	Pro	Ala	Glu	Leu					
				515					520					525					
Glu	Asp	Phe	Phe	His	Thr	His	Pro	Lys	Val	Gln	Glu	Val	Gln	Val					
				530					535					540					
Val	Gly	Val	Lys	Asp	Asp	Arg	Met	Gly	Glu	Glu	Ile	Cys	Ala	Cys					
				545					550					555					
Ile	Arg	Leu	Lys	Asp	Gly	Glu	Glu	Thr	Thr	Val	Glu	Glu	Ile	Lys					

560	565	570
Ala Phe Cys Lys Gly Lys Ile Ser His	Phe Lys Ile Pro Lys Tyr	
575	580	585
Ile Val Phe Val Thr Asn Tyr Pro Leu	Thr Ile Ser Gly Lys Ile	
590	595	600
Gln Lys Phe Lys Leu Arg Glu Gln Met	Glu Arg His Leu Asn Leu	
605	610	615

<210> 195  
 <211> 642  
 <212> DNA  
 <213> Homo sapiens

<400> 195  
 caactccaac attttaggag agcgctgaa actgcatgag aagacaccag 50  
 agcagttgcg gatgatcctg cccaaccccc tgtaccattg cctgggttcc 100  
 gtggcaggca caatgatgtg tctgatgtac ggtgccaccc tcatcctggc 150  
 ctctcccatc ttcaatggca agaaggcact ggaggccatc agcagagaga 200  
 gaggcacctt cctgtatggt acccccacga tgttcgtgga cattctgaac 250  
 cagccagact tctccagtta tgacatctcg accatgtgtg gaggtgtcat 300  
 tgctgggtcc cctgcacctc cagagttgat cggagccatc atcaacaaga 350  
 taaatatgaa ggacctggtg gttgcttatg gaaccacaga gaacagtccc 400  
 gtgacattcg cgcacttccc tgaggacact gtggagcaga aggagaaag 450  
 cgtgggcaga attatgcctc acacggaggc gcggatcatg aacatggagg 500  
 cagggacgct ggcaaagctg aacacgcccg gggagctgtg catccgaggg 550  
 tactgctca tgctgggcta ctggggtgag cctcagaaga cagaggaagc 600  
 agtggatcag gacaagtggg attggacagg agatgtcgcc ac 642

<210> 196  
 <211> 1575  
 <212> DNA  
 <213> Homo sapiens

<400> 196  
 gagcaggacg gagccatgga ccccgccagg aaagcaggtg cccaggccat 50  
 gatctggact gcaggctggc tgctgctgct gctgcttcgc ggaggagcgc 100  
 aggccctgga gtgctacagc tgctgtcaga aagcagatga cggatgctcc 150  
 ccgaacaaga tgaagacagt gaagtgcgcg ccgggctgtg acgtctgcac 200  
 cgaggccgtg ggggcgggtg agaccatcca cggacaattc tcgctggcag 250  
 tgccggggtt cggttcggga ctccccggca agaataaccg cggcctggat 300  
 cttcacgggc ttctggcgtt catccagctg cagcaatgcg ctcaggatcg 350



ctgcaacgcc aagctcaacc tcacctcgcg ggcgctogac ccggcaggta 400  
atgagagtgc ataccgccc aacggcgtgg agtgctacag ctgtgtgggc 450  
ctgagccggg aggcgtgcc ggtacatcg ccgccggtcg tgagctgcta 500  
caacgccagc gatcatgtct acaagggctg cttogacggc aacgtcacct 550  
tgacggcagc taatgtgact gtgtccttgc ctgtccgggg ctgtgtccag 600  
gatgaattct gcactcggga tggagtaaca ggcccagggt tcacgctcag 650  
tggctcctgt tgccaggggt cccgctgtaa ctctgacctc cgcaacaaga 700  
cctacttctc ccctcgaatc ccaccccttg tccggctgcc ccctccagag 750  
cccacgactg tggcctcaac cacatctgtc accacttcta cctcggtccc 800  
agtgagaccc acatccacca ccaaaccat gccagcgcca accagtcaga 850  
ctccgagaca gggagtagaa cacgaggcct cccgggatga ggagcccagg 900  
ttgactggag gcgcccgtgg ccaccaggac cgcagcaatt cagggcagta 950  
tcctgcaaaa ggggggcccc agcagcccca taataaaggc tgtgtggctc 1000  
ccacagctgg attggcagcc cttctgttgg ccgtggctgc tgggtgtccta 1050  
ctgtgagctt ctccacctgg aaatttccct ctcacctact tctctggccc 1100  
tgggtacccc tcttctcact acttctgtt cccaccactg gactgggctg 1150  
gccagcccc tgtttttcca acattcccca gtatcccag cttctgtgc 1200  
gctggtttgc ggctttggga aataaaatac cgttgtatat attctgccag 1250  
gggtgttcta gctttttgag gacagctcct gtatccttct catccttgtc 1300  
tctccgcttg tctcttctgt atgttaggac agagtgagag aagtcagctg 1350  
tcacggggaa ggtgagagag aggatgctaa gcttcctact cactttctcc 1400  
tagccagcct ggactttgga gcgtgggggtg ggtgggacaa tggctcccca 1450  
ctctaagcac tgcctcccct actcccgcga tctttgggga atcggttccc 1500  
catatgtctt ccttactaga ctgtgagctc ctcgaggggg ggcccggtag 1550  
ccaattcgcc ctatagtgag tcgta 1575

<210> 197

<211> 346

<212> PRT

<213> Homo sapiens

<400> 197

Met Asp Pro Ala Arg Lys Ala Gly Ala Gln Ala Met Ile Trp Thr  
1 5 10 15

Ala Gly Trp Leu Leu Leu Leu Leu Leu Arg Gly Gly Ala Gln Ala  
20 25 30

Leu Glu Cys Tyr Ser Cys Val Gln Lys Ala Asp Asp Gly Cys Ser

	35	40	45
Pro Asn Lys Met	Lys Thr Val Lys Cys Ala	Pro Gly Val Asp Val	
	50	55	60
Cys Thr Glu Ala	Val Gly Ala Val Glu Thr	Ile His Gly Gln Phe	
	65	70	75
Ser Leu Ala Val	Arg Gly Cys Gly Ser Gly	Leu Pro Gly Lys Asn	
	80	85	90
Asp Arg Gly Leu	Asp Leu His Gly Leu Leu	Ala Phe Ile Gln Leu	
	95	100	105
Gln Gln Cys Ala	Gln Asp Arg Cys Asn Ala	Lys Leu Asn Leu Thr	
	110	115	120
Ser Arg Ala Leu	Asp Pro Ala Gly Asn Glu	Ser Ala Tyr Pro Pro	
	125	130	135
Asn Gly Val Glu	Cys Tyr Ser Cys Val Gly	Leu Ser Arg Glu Ala	
	140	145	150
Cys Gln Gly Thr	Ser Pro Pro Val Val Ser	Cys Tyr Asn Ala Ser	
	155	160	165
Asp His Val Tyr	Lys Gly Cys Phe Asp Gly	Asn Val Thr Leu Thr	
	170	175	180
Ala Ala Asn Val	Thr Val Ser Leu Pro Val	Arg Gly Cys Val Gln	
	185	190	195
Asp Glu Phe Cys	Thr Arg Asp Gly Val Thr	Gly Pro Gly Phe Thr	
	200	205	210
Leu Ser Gly Ser	Cys Cys Gln Gly Ser Arg	Cys Asn Ser Asp Leu	
	215	220	225
Arg Asn Lys Thr	Tyr Phe Ser Pro Arg Ile	Pro Pro Leu Val Arg	
	230	235	240
Leu Pro Pro Pro	Glu Pro Thr Thr Val Ala	Ser Thr Thr Ser Val	
	245	250	255
Thr Thr Ser Thr	Ser Ala Pro Val Arg Pro	Thr Ser Thr Thr Lys	
	260	265	270
Pro Met Pro Ala	Pro Thr Ser Gln Thr Pro	Arg Gln Gly Val Glu	
	275	280	285
His Glu Ala Ser	Arg Asp Glu Glu Pro Arg	Leu Thr Gly Gly Ala	
	290	295	300
Ala Gly His Gln	Asp Arg Ser Asn Ser Gly	Gln Tyr Pro Ala Lys	
	305	310	315
Gly Gly Pro Gln	Gln Pro His Asn Lys Gly	Cys Val Ala Pro Thr	
	320	325	330
Ala Gly Leu Ala	Ala Leu Leu Leu Ala Val	Ala Ala Gly Val Leu	
	335	340	345

Leu

<210> 198  
 <211> 1657  
 <212> DNA  
 <213> Homo sapiens

<400> 198  
 cgggactcgg cgggtcctcc tgggagtctc ggaggggacc ggctgtgcag 50  
 acgccatgga gttggtgctg gtcttcctct gcagcctgct ggcccccatg 100  
 gtcctggcca gtgcagctga aaaggagaag gaaatggacc cttttcatta 150  
 tgattaccag accctgagga ttgggggact ggtgttcgct gtggtcctct 200  
 tctcggttgg gatcctcctt atcctaagtc gcagggtgcaa gtgcagtttc 250  
 aatcagaagc cccgggcccc aggagatgag gaagcccagg tggagaacct 300  
 catcaccgcc aatgcaacag agccccagaa gcagagaact gaagtgcagc 350  
 catcagggtgg aagcctcttg aacctgaggc ggctgcttga acctttggat 400  
 gcaaatgtcg atgcttaaga aaaccggcca cttcagcaac agccctttcc 450  
 ccaggagaag ccaagaactt gtgtgtcccc caccctatcc cctctaacac 500  
 cattcctcca cctgatgatg caactaacac ttgcctcccc actgcagcct 550  
 gcggtcctgc ccacctcccg tgatgtgtgt gtgtgtgtgt gtgtgtgact 600  
 gtgtgtgttt gctaactgtg gtctttgtgg ctacttgttt gtggatggta 650  
 ttgtgtttgt tagtgaactg tggactcgct ttcccaggca ggggctgagc 700  
 cacatggcca tctgctcctc cctgcccccg tggccctcca tcaccttctg 750  
 ctcctaggag gctgcttggt gcccgagacc agccccctcc cctgatttag 800  
 ggatgcgtag ggtaagagca cgggcagtgg tcttcagtcg tcttgggacc 850  
 tgggaagggt tgcagcactt tgtcatcatt cttcatggac tcctttcact 900  
 cctttaacaa aaaccttgct tccttatccc acctgatccc agtctgaagg 950  
 tctcttagca actggagata caaagcaagg agctggtgag cccagcgttg 1000  
 acgtcaggca ggctatgcc ttccgtggtt aatttcttcc caggggcttc 1050  
 cacgaggagt ccccatctgc cccgcccctt cacagagcgc ccggggattc 1100  
 caggcccagg gcttctactc tgcccctggg gaatgtgtcc cctgcatatc 1150  
 ttctcagcaa taactccatg ggctctggga ccctaccctt tccaaccttc 1200  
 cctgcttctg agacttcaat ctacagccca gctcatccag atgcagacta 1250  
 cagtccctgc aattgggtct ctggcaggca atagttgaag gactcctggt 1300  
 ccgttggggc cagcacaccg ggatggatgg agggagagca gaggcctttg 1350  
 cttctctgcc tacgtcccct tagatgggca gcagaggcaa ctcccgcatc 1400

ctttgctctg cctgtcgggtg gtcagagcgg tgagcgaggt gggttggaga 1450  
 ctcagcaggc tccgtgcagc ccttggaac agtgagaggt tgaaggatcat 1500  
 aacgagagtg ggaactcaac ccagatccccg cccctcctgt cctctgtgtt 1550  
 cccgcggaaa ccaaccaaac cgtgcgctgt gacccattgc tgttctctgt 1600  
 atcgtgatct atcctcaaca acaacagaaa aaaggaataa aatataccttt 1650  
 gtttcct 1657

<210> 199  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 199  
 Met Glu Leu Val Leu Val Phe Leu Cys Ser Leu Leu Ala Pro Met  
     1                    5                    10                    15  
 Val Leu Ala Ser Ala Ala Glu Lys Glu Lys Glu Met Asp Pro Phe  
                     20                    25                    30  
 His Tyr Asp Tyr Gln Thr Leu Arg Ile Gly Gly Leu Val Phe Ala  
                     35                    40                    45  
 Val Val Leu Phe Ser Val Gly Ile Leu Leu Ile Leu Ser Arg Arg  
                     50                    55                    60  
 Cys Lys Cys Ser Phe Asn Gln Lys Pro Arg Ala Pro Gly Asp Glu  
                     65                    70                    75  
 Glu Ala Gln Val Glu Asn Leu Ile Thr Ala Asn Ala Thr Glu Pro  
                     80                    85                    90  
 Gln Lys Gln Arg Thr Glu Val Gln Pro Ser Gly Gly Ser Leu Trp  
                     95                    100                    105  
 Asn Leu Arg Arg Leu Leu Glu Pro Leu Asp Ala Asn Val Asp Ala  
                     110                    115                    120

<210> 200  
 <211> 415  
 <212> DNA  
 <213> Homo sapiens

<400> 200  
 aaacttgacg ccatgaagat cccggtcctt cctgccgtgg tgctcctctc 50  
 cctcctgggtg ctccactctg cccagggagc caccctgggt ggtcctgagg 100  
 aagaaagcac cattgagaat tatgcgtcac gacccgaggc ctttaacacc 150  
 ccgttcctga acatcgacaa attgcatct gcgtttaagg ctgatgagtt 200  
 cctgaactgg cagccctct ttgagtctat caaaaggaaa cttcctttcc 250  
 tcaactggga tgcctttcct aagctgaaag gactgaggag cgcaactcct 300  
 gatgccagtg gaccatgacc tccactggaa gagggggcta gcgtgagcgc 350  
 tgattctcaa cctaccataa ctctttcctg cctcaggaac tccaataaaa 400

cattttccat ccaaa 415

<210> 201

<211> 99

<212> PRT

<213> Homo sapiens

<400> 201

Met	Lys	Ile	Pro	Val	Leu	Pro	Ala	Val	Val	Leu	Leu	Ser	Leu	Leu
1				5					10					15
Val	Leu	His	Ser	Ala	Gln	Gly	Ala	Thr	Leu	Gly	Gly	Pro	Glu	Glu
				20					25					30
Glu	Ser	Thr	Ile	Glu	Asn	Tyr	Ala	Ser	Arg	Pro	Glu	Ala	Phe	Asn
				35					40					45
Thr	Pro	Phe	Leu	Asn	Ile	Asp	Lys	Leu	Arg	Ser	Ala	Phe	Lys	Ala
				50					55					60
Asp	Glu	Phe	Leu	Asn	Trp	His	Ala	Leu	Phe	Glu	Ser	Ile	Lys	Arg
				65					70					75
Lys	Leu	Pro	Phe	Leu	Asn	Trp	Asp	Ala	Phe	Pro	Lys	Leu	Lys	Gly
				80					85					90
Leu	Arg	Ser	Ala	Thr	Pro	Asp	Ala	Gln						
				95										

<210> 202

<211> 678

<212> DNA

<213> Homo sapiens

<400> 202

cagttctgaa atcaatggag ttaatttagg gaatacaaac cagccatggg 50  
ggtggagatt gcctttgcct cagtgattct cacctgcctc tcccttctgg 100  
cagcaggagt ctcccagggt gttcttctcc agccagttcc aactcaggag 150  
acaggtccca aggccatggg agatctctcc tgtggctttg ccggccactc 200  
atgagagtgt ttttgtgtaa agtatTTTTT agaatactgt tgacttcttc 250  
atgatttaat aaccatcctt tgcgaagttt tatgaggctt taggggaatg 300  
tcaaccctca aatttttggt atactagatg gttccattt acccaccact 350  
attttaaggt ccctttatTT ttaggttcaa gggtcatttg acttgagaaa 400  
gtgcccttct gcagcttcat tgattttggt tatcttcact attaattgta 450  
acgattaataa aagaataaga gcacgcagac ctctaggaga atattttatc 500  
cctgggtgcc cctgacacat ttatgtagtg atcccacaaa tgtgattgtt 550  
aatttaaagT ttatttotaat attagtagat tcagttgtga tgtaatatga 600  
ataaccagaa tctatttctt aaaagttttg agtatatttt tcaactagat 650  
atttgtatag aaagactgaa tagtgatg 678

<210> 203  
 <211> 52  
 <212> PRT  
 <213> Homo sapiens

<400> 203  
 Met Gly Val Glu Ile Ala Phe Ala Ser Val Ile Leu Thr Cys Leu  
     1                    5                    10                    15  
 Ser Leu Leu Ala Ala Gly Val Ser Gln Val Val Leu Leu Gln Pro  
                     20                    25                    30  
 Val Pro Thr Gln Glu Thr Gly Pro Lys Ala Met Gly Asp Leu Ser  
                     35                    40                    45  
 Cys Gly Phe Ala Gly His Ser  
                     50

<210> 204  
 <211> 1917  
 <212> DNA  
 <213> Homo sapiens

<400> 204  
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 gcttcggctc tggctgctgt tgttcctcct gccctcagcg cagggccgcc 100  
 agaaggagtc aggttcaaaa tggaaagtat ttattgacca aattaacagg 150  
 tctttggaga attacgaacc atgttcaagt caaaactgca gctgctacca 200  
 tgggtgtcata gaagaggatc taactccttt ccgaggaggc atctccagga 250  
 agatgatggc agaggtagtc agacggaagc tagggacca ctatcagatc 300  
 actaagaaca gactgtaccg ggaaaatgac tgcatgttcc cctcaagggtg 350  
 tagtggtgtt gagcacttta ttttggaagt gatcgggcgt ctccctgaca 400  
 tggagatggt gatcaatgta cgagattatc ctcagggttcc taaatggatg 450  
 gagcctgcca tcccagtctt ctccttcagt aagacatcag agtaccatga 500  
 tatcatgtat cctgcttggg cattttggga agggggacct gctgtttggc 550  
 caatttatcc tacaggcttt ggacggtggg acctcttcag agaagatctg 600  
 gtaaggtcag cagcacagtg gccatggaaa aagaaaaact ctacagcata 650  
 tttccgagga tcaaggacaa gtccagaacg agatcctctc attcttctgt 700  
 ctcggaaaaa cccaaaactt gttgatgcag aatacaccaa aaaccaggcc 750  
 tggaaatcta tgaaagatac cttaggaaag ccagctgcta aggatgtcca 800  
 tcttgtggat cactgcaa atcaagtatct gtttaatttt cgaggcgtag 850  
 ctgcaagttt ccggttttaa cacctcttcc tgtgtggctc acttgttttc 900  
 catgttggtg atgagtggtt agaattcttc tatccacagc tgaagccatg 950  
 ggttcactat atcccagtca aaacagatct ctccaatgtc caagagctgt 1000

tacaatttgt aaaagcaaat gatgatgtag ctcaagagat tgctgaaagg 1050  
 ggaagccagt ttattaggaa ccatttgcag atggatgaca tcacctgtta 1100  
 ctgggagaac ctcttgagtg aatactctaa attoctgtct tataatgtaa 1150  
 cgagaaggaa aggttatgat caaattattc ccaaaatggt gaaaactgaa 1200  
 ctatagtagt catcatagga ccatagtcct ctttgtggca acagatctca 1250  
 gatatcctac ggtgagaagc ttaccataag cttggctcct ataccttgaa 1300  
 tatctgctat caagccaaat acctgggttt ccttatcatg ctgcaccag 1350  
 agcaactctt gagaaagatt taaaatgtgt ctaatacact gatatgaagc 1400  
 agttcaactt tttggatgaa taaggaccag aaatcgtgag atgtggattt 1450  
 tgaacccaac tctacctttc attttcttaa gaccaatcac agcttgtgcc 1500  
 tcagatcatc cacctgtgtg agtccatcac tgtgaaattg actgtgtcca 1550  
 tgtgatgatg ccctttgtcc cattatttgg agcagaaaat tcgtcatttg 1600  
 gaagtagtac aactcattgc tggaattgtg aaattattca aggcgtgatc 1650  
 tctgtcactt tattttaatg taggaaaccc tatgggggtt atgaaaaata 1700  
 cttggggatc attctctgaa tgggtctaagg aagcggtagc catgccatgc 1750  
 aatgatgtag gagttctctt ttgtaaaacc ataaactctg ttactcagga 1800  
 ggtttctata atgccacata gaaagaggcc aattgcatga gtaattattg 1850  
 caattggatt tcaggttccc tttttgtgcc ttcatgccct acttcttaat 1900  
 gcctctctaa agccaaa 1917

<210> 205  
 <211> 392  
 <212> PRT  
 <213> Homo sapiens

<400> 205  
 Met Glu Trp Trp Ala Ser Ser Pro Leu Arg Leu Trp Leu Leu Leu  
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 Phe Leu Leu Pro Ser Ala Gln Gly Arg Gln Lys Glu Ser Gly Ser  
 20 25 30  
 Lys Trp Lys Val Phe Ile Asp Gln Ile Asn Arg Ser Leu Glu Asn  
 35 40 45  
 Tyr Glu Pro Cys Ser Ser Gln Asn Cys Ser Cys Tyr His Gly Val  
 50 55 60  
 Ile Glu Glu Asp Leu Thr Pro Phe Arg Gly Gly Ile Ser Arg Lys  
 65 70 75  
 Met Met Ala Glu Val Val Arg Arg Lys Leu Gly Thr His Tyr Gln  
 80 85 90  
 Ile Thr Lys Asn Arg Leu Tyr Arg Glu Asn Asp Cys Met Phe Pro

	95	100	105
Ser Arg Cys Ser	Gly Val Glu His Phe	Ile Leu Glu Val Ile	Gly
	110	115	120
Arg Leu Pro Asp	Met Glu Met Val Ile	Asn Val Arg Asp Tyr	Pro
	125	130	135
Gln Val Pro Lys	Trp Met Glu Pro Ala	Ile Pro Val Phe Ser	Phe
	140	145	150
Ser Lys Thr Ser	Glu Tyr His Asp Ile	Met Tyr Pro Ala Trp	Thr
	155	160	165
Phe Trp Glu Gly	Gly Pro Ala Val Trp	Pro Ile Tyr Pro Thr	Gly
	170	175	180
Leu Gly Arg Trp	Asp Leu Phe Arg Glu	Asp Leu Val Arg Ser	Ala
	185	190	195
Ala Gln Trp Pro	Trp Lys Lys Lys Asn	Ser Thr Ala Tyr Phe	Arg
	200	205	210
Gly Ser Arg Thr	Ser Pro Glu Arg Asp	Pro Leu Ile Leu Leu	Ser
	215	220	225
Arg Lys Asn Pro	Lys Leu Val Asp Ala	Glu Tyr Thr Lys Asn	Gln
	230	235	240
Ala Trp Lys Ser	Met Lys Asp Thr Leu	Gly Lys Pro Ala Ala	Lys
	245	250	255
Asp Val His Leu	Val Asp His Cys Lys	Tyr Lys Tyr Leu Phe	Asn
	260	265	270
Phe Arg Gly Val	Ala Ala Ser Phe Arg	Phe Lys His Leu Phe	Leu
	275	280	285
Cys Gly Ser Leu	Val Phe His Val Gly	Asp Glu Trp Leu Glu	Phe
	290	295	300
Phe Tyr Pro Gln	Leu Lys Pro Trp Val	His Tyr Ile Pro Val	Lys
	305	310	315
Thr Asp Leu Ser	Asn Val Gln Glu Leu	Leu Gln Phe Val Lys	Ala
	320	325	330
Asn Asp Asp Val	Ala Gln Glu Ile Ala	Glu Arg Gly Ser Gln	Phe
	335	340	345
Ile Arg Asn His	Leu Gln Met Asp Asp	Ile Thr Cys Tyr Trp	Glu
	350	355	360
Asn Leu Leu Ser	Glu Tyr Ser Lys Phe	Leu Ser Tyr Asn Val	Thr
	365	370	375
Arg Arg Lys Gly	Tyr Asp Gln Ile Ile	Pro Lys Met Leu Lys	Thr
	380	385	390
Glu Leu			

<210> 206



<211> 1425  
<212> DNA  
<213> Homo sapiens

<400> 206

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<210> 207  
 <211> 262  
 <212> PRT  
 <213> Homo sapiens

<400> 207

Met	Ala	Pro	Ala	Leu	Leu	Leu	Ile	Pro	Ala	Ala	Leu	Ala	Ser	Phe
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Ile	Leu	Ala	Phe	Gly	Thr	Gly	Val	Glu	Phe	Val	Arg	Phe	Thr	Ser
				20					25					30
Leu	Arg	Pro	Leu	Leu	Gly	Gly	Ile	Pro	Glu	Ser	Gly	Gly	Pro	Asp
				35					40					45
Ala	Arg	Gln	Gly	Trp	Leu	Ala	Ala	Leu	Gln	Asp	Arg	Ser	Ile	Leu
				50					55					60
Ala	Pro	Leu	Ala	Trp	Asp	Leu	Gly	Leu	Leu	Leu	Phe	Val	Gly	
				65					70					75
Gln	His	Ser	Leu	Met	Ala	Ala	Glu	Arg	Val	Lys	Ala	Trp	Thr	Ser
				80					85					90
Arg	Tyr	Phe	Gly	Val	Leu	Gln	Arg	Ser	Leu	Tyr	Val	Ala	Cys	Thr
				95					100					105
Ala	Leu	Ala	Leu	Gln	Leu	Val	Met	Arg	Tyr	Trp	Glu	Pro	Ile	Pro
				110					115					120
Lys	Gly	Pro	Val	Leu	Trp	Glu	Ala	Arg	Ala	Glu	Pro	Trp	Ala	Thr
				125					130					135
Trp	Val	Pro	Leu	Leu	Cys	Phe	Val	Leu	His	Val	Ile	Ser	Trp	Leu
				140					145					150
Leu	Ile	Phe	Ser	Ile	Leu	Leu	Val	Phe	Asp	Tyr	Ala	Glu	Leu	Met
				155					160					165
Gly	Leu	Lys	Gln	Val	Tyr	Tyr	His	Val	Leu	Gly	Leu	Gly	Glu	Pro
				170					175					180
Leu	Ala	Leu	Lys	Ser	Pro	Arg	Ala	Leu	Arg	Leu	Phe	Ser	His	Leu
				185					190					195
Arg	His	Pro	Val	Cys	Val	Glu	Leu	Leu	Thr	Val	Leu	Trp	Val	Val
				200					205					210
Pro	Thr	Leu	Gly	Thr	Asp	Arg	Leu	Leu	Leu	Ala	Phe	Leu	Leu	Thr
				215					220					225
Leu	Tyr	Leu	Gly	Leu	Ala	His	Gly	Leu	Asp	Gln	Gln	Asp	Leu	Arg
				230					235					240
Tyr	Leu	Arg	Ala	Gln	Leu	Gln	Arg	Lys	Leu	His	Leu	Leu	Ser	Arg
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Pro	Gln	Asp	Gly	Glu	Ala	Glu								
				260										

<210> 208  
 <211> 2095  
 <212> DNA

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caacaaaaaa	cttaagcttt	aatttcatct	ggaattccac	agttttctta	200
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tcctgagttt	ctttgtgatg	tggtacctca	gccttcccca	ctacaatgtg	450
atagaacgcg	tgaactggat	gtacttctat	gagtatgagc	cgattttacag	500
acaagacttt	cacttcacac	ttcgagagca	ttcaaactgc	tctcatcaaa	550
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aaatgttggc	attgtcctta	gaggatgaac	accttcttta	tggtgacata	750
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cttttaaacc	taaaccactc	agagaagttt	ttcacaggtt	atcctctaata	950
tgataattat	tcctatagag	gattttacca	aaaaacccat	atttcttacc	1000
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aaaaccocatc	aagtttgaag	atgtttatgt	cgggatctgt	ttgaatttat	1150
taaaagtga	cattcatatt	ccagaagaca	caaactctttt	ctttctatat	1200
agaatccatt	tggatgtctg	tcaactgaga	cgtgtgattg	cagcccatgg	1250
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tacttaactg atcagtttat tattgatata tcactccatt aatgtaaagt 2000  
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<210> 209  
<211> 331  
<212> PRT  
<213> Homo sapiens

<400> 209  
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Phe Val Met Trp Tyr Leu Ser Leu Pro His Tyr Asn Val Ile Glu  
35 40 45  
Arg Val Asn Trp Met Tyr Phe Tyr Glu Tyr Glu Pro Ile Tyr Arg  
50 55 60  
Gln Asp Phe His Phe Thr Leu Arg Glu His Ser Asn Cys Ser His  
65 70 75  
Gln Asn Pro Phe Leu Val Ile Leu Val Thr Ser His Pro Ser Asp  
80 85 90  
Val Lys Ala Arg Gln Ala Ile Arg Val Thr Trp Gly Glu Lys Lys  
95 100 105  
Ser Trp Trp Gly Tyr Glu Val Leu Thr Phe Phe Leu Leu Gly Gln  
110 115 120  
Glu Ala Glu Lys Glu Asp Lys Met Leu Ala Leu Ser Leu Glu Asp  
125 130 135  
Glu His Leu Leu Tyr Gly Asp Ile Ile Arg Gln Asp Phe Leu Asp  
140 145 150  
Thr Tyr Asn Asn Leu Thr Leu Lys Thr Ile Met Ala Phe Arg Trp  
155 160 165

Val	Thr	Glu	Phe	Cys	Pro	Asn	Ala	Lys	Tyr	Val	Met	Lys	Thr	Asp	
				170					175					180	
Thr	Asp	Val	Phe	Ile	Asn	Thr	Gly	Asn	Leu	Val	Lys	Tyr	Leu	Leu	
				185					190					195	
Asn	Leu	Asn	His	Ser	Glu	Lys	Phe	Phe	Thr	Gly	Tyr	Pro	Leu	Ile	
				200					205					210	
Asp	Asn	Tyr	Ser	Tyr	Arg	Gly	Phe	Tyr	Gln	Lys	Thr	His	Ile	Ser	
				215					220					225	
Tyr	Gln	Glu	Tyr	Pro	Phe	Lys	Val	Phe	Pro	Pro	Tyr	Cys	Ser	Gly	
				230					235					240	
Leu	Gly	Tyr	Ile	Met	Ser	Arg	Asp	Leu	Val	Pro	Arg	Ile	Tyr	Glu	
				245					250					255	
Met	Met	Gly	His	Val	Lys	Pro	Ile	Lys	Phe	Glu	Asp	Val	Tyr	Val	
				260					265					270	
Gly	Ile	Cys	Leu	Asn	Leu	Leu	Lys	Val	Asn	Ile	His	Ile	Pro	Glu	
				275					280					285	
Asp	Thr	Asn	Leu	Phe	Phe	Leu	Tyr	Arg	Ile	His	Leu	Asp	Val	Cys	
				290					295					300	
Gln	Leu	Arg	Arg	Val	Ile	Ala	Ala	His	Gly	Phe	Ser	Ser	Lys	Glu	
				305					310					315	
Ile	Ile	Thr	Phe	Trp	Gln	Val	Met	Leu	Arg	Asn	Thr	Thr	Cys	His	
				320					325					330	

Tyr

<210> 210  
 <211> 745  
 <212> DNA  
 <213> Homo sapiens

<400> 210  
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 caacgtcaat gatgacaaca acaatgctgg aagtgggcag cagtcaagtga 150  
 gtgtcaacaa tgaacacaat gtggccaatg ttgacaataa caacggatgg 200  
 gactcctgga attccatctg ggattatgga aatggctttg ctgcaaccag 250  
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 tgccctccat tcaatccctt gatgcactgg tcaaggaaaa gaagcttcag 350  
 ggtaagggac caggaggacc acctcccaag ggcctgatgt actcagtcaa 400  
 cccaaacaaa gtcgatgacc tgagcaagtt cggaaaaaac attgcaaaca 450  
 tgtgtcgtgg gattccaaca tacatggctg aggagatgca agaggcaagc 500  
 ctgttttttt actcaggaac gtgctacacg accagtgtac tatggattgt 550

ggacatttcc ttctgtggag acacggtgga gaactaaaca attttttaaa 600  
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tccagtgggtt tttaccatgt cattctgaaa tttttctota ctagttatgt 700  
ttgatttctt taagtttcaa taaaatcatt tagcattgaa aaaaa 745

<210> 211  
<211> 185  
<212> PRT  
<213> Homo sapiens

<400> 211  
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Ala Pro Ala Leu Ala Asn Tyr Asn Ile Asn Val Asn Asp Asp Asn  
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Asn Asn Ala Gly Ser Gly Gln Gln Ser Val Ser Val Asn Asn Glu  
35 40 45  
His Asn Val Ala Asn Val Asp Asn Asn Asn Gly Trp Asp Ser Trp  
50 55 60  
Asn Ser Ile Trp Asp Tyr Gly Asn Gly Phe Ala Ala Thr Arg Leu  
65 70 75  
Phe Gln Lys Lys Thr Cys Ile Val His Lys Met Asn Lys Glu Val  
80 85 90  
Met Pro Ser Ile Gln Ser Leu Asp Ala Leu Val Lys Glu Lys Lys  
95 100 105  
Leu Gln Gly Lys Gly Pro Gly Gly Pro Pro Pro Lys Gly Leu Met  
110 115 120  
Tyr Ser Val Asn Pro Asn Lys Val Asp Asp Leu Ser Lys Phe Gly  
125 130 135  
Lys Asn Ile Ala Asn Met Cys Arg Gly Ile Pro Thr Tyr Met Ala  
140 145 150  
Glu Glu Met Gln Glu Ala Ser Leu Phe Phe Tyr Ser Gly Thr Cys  
155 160 165  
Tyr Thr Thr Ser Val Leu Trp Ile Val Asp Ile Ser Phe Cys Gly  
170 175 180  
Asp Thr Val Glu Asn  
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<210> 212  
<211> 1706  
<212> DNA  
<213> Homo sapiens

<400> 212  
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tcctagtatt aaattcttat tgcttactga tttttttgag ttaagagttg 200  
ttatatgcta gaatatgagg atgtgaatat aaataagaga agaaaaaaga 250  
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agaaaagaca gcaagagaag tagaaatagc agaagtgcaa gtcgatcgag 850  
gtcaagaaca cgatcacggt ctagatcaca tactccaaga agacactata 900  
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gatcactcag atgcagccaa gaaacacagg catgaaaggg gacatcatag 1150  
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<210> 213

<211> 299

<212> PRT

<213> Homo sapiens

<400> 213

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				20					25					30
Gln	Ile	Pro	Leu	Pro	Thr	Arg	Pro	His	Trp	Phe	Leu	Leu	Phe	Gly
				35					40					45
Thr	Thr	Glu	Glu	Glu	Ile	Gln	Glu	Ile	Cys	Ile	Glu	Thr	Leu	Arg
				50					55					60
Leu	Tyr	Thr	Arg	Lys	Lys	Pro	Asn	Tyr	Glu	Leu	Leu	Glu	Lys	Glu
				65					70					75
Val	Glu	Lys	Arg	Lys	Val	Ala	Leu	Gln	Glu	Ala	Lys	Leu	Lys	Ala
				80					85					90
Lys	Gly	Leu	Asn	Pro	Asp	Gly	Thr	Pro	Ala	Leu	Ser	Thr	Leu	Gly
				95					100					105
Gly	Phe	Ser	Pro	Ala	Ser	Lys	Pro	Ser	Ser	Pro	Arg	Glu	Val	Lys
				110					115					120
Ala	Glu	Glu	Lys	Ser	Pro	Ile	Ser	Ile	Asn	Val	Lys	Thr	Val	Lys
				125					130					135
Lys	Glu	Pro	Glu	Asp	Arg	Gln	Gln	Ala	Ser	Lys	Ser	Pro	Tyr	Asn
				140					145					150
Gly	Val	Arg	Lys	Asp	Ser	Lys	Arg	Ser	Arg	Asn	Ser	Arg	Ser	Ala
				155					160					165
Ser	Arg	Ser	Arg	Ser	Arg	Thr	Arg	Ser	Arg	Ser	Arg	Ser	His	Thr
				170					175					180
Pro	Arg	Arg	His	Tyr	Asn	Asn	Arg	Arg	Ser	Arg	Ser	Gly	Thr	Tyr
				185					190					195
Ser	Ser	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Ser	His	Ser	Glu	Ser	Pro
				200					205					210
Arg	Arg	His	His	Asn	His	Gly	Ser	Pro	His	Leu	Lys	Ala	Lys	His
				215					220					225
Thr	Arg	Asp	Asp	Leu	Lys	Ser	Ser	Asn	Arg	His	Gly	His	Lys	Arg
				230					235					240
Lys	Lys	Ser	Arg	Ser	Arg	Ser	Gln	Ser	Lys	Ser	Arg	Asp	His	Ser
				245					250					255
Asp	Ala	Ala	Lys	Lys	His	Arg	His	Glu	Arg	Gly	His	His	Arg	Asp
				260					265					270
Arg	Arg	Glu	Arg	Ser	Arg	Ser	Phe	Glu	Arg	Ser	His	Lys	Ser	Lys



His His Gly Gly Ser Arg Ser Gly His Gly Arg His Arg Arg  
290 295

<210> 214

<211> 730

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 72-73, 85, 91, 127, 226, 268, 454, 484, 513, 566, 663

<223> unknown base

<400> 214

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ggattgtaat atgaaattat ttaaaagggc ttogctcata tataggaaaa 200  
tcgcatatgg tcctagtatt aaattnttat tgcttactga tttttttgag 250  
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agaactgggt tgtttacatg caagcttata gttgaaatat ttttcaggaa 400  
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agccaaaacta tgaattactg gaaaaagaag tagaaaaaag aaaagtagcc 650  
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<210> 215

<211> 1807

<212> DNA

<213> Homo sapiens

<400> 215

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ccaccctcat gcacaggctg gcgccacact gctccttcgc gcgctggctg 150  
ctctgtaacg gcagtttggt ccgatacaag caccctgtctg aggaggagct 200  
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gctggcccag acccaccggg acgcactgac catgtcggag gacagacca 850  
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gcctctgggtt gctgggtggtg ctgtgcctgc tgcggctggc ggtgaccgg 1050  
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gcgaaggag gctggccgca tcgaagcccg tgaaatccag cagagggtgg 1150  
tccgagtcta ctgctatgtg accgtggtga gcttgacagta cctgacgccg 1200  
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ccagcgctgc ccccatcgcc tctggggagg acgaagtcca gcagactgca 1350  
gcgcggattg ccggggccct gggtggcctg cttactcccc tcttctccg 1400  
tggcgtcctg gcctacctca tctggtggac ggctgcctgc cagctgctcg 1450  
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cctgcagacc ctctggggc cctgaggtct gttcctgggg cagcgggaca 1550  
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atgagggtcc cgaggccatt gtctccgaag cgtatgtgcc aggtttgagt 1750  
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tttttaa 1807

<210> 216



	290	295	300
Thr Arg Phe Ser	Leu Leu Ser Asp Ser	Ala Phe Asp Ser Gly	Arg
	305	310	315
Leu Trp Leu Leu	Val Val Leu Cys Leu	Leu Arg Leu Ala Val	Thr
	320	325	330
Arg Pro His Leu	Gln Ala Tyr Leu Cys	Leu Ala Lys Ala Arg	Val
	335	340	345
Glu Gln Leu Arg	Arg Glu Ala Gly Arg	Ile Glu Ala Arg Glu	Ile
	350	355	360
Gln Gln Arg Val	Val Arg Val Tyr Cys	Tyr Val Thr Val Val	Ser
	365	370	375
Leu Gln Tyr Leu	Thr Pro Leu Ile Leu	Thr Leu Asn Cys Thr	Leu
	380	385	390
Leu Leu Lys Thr	Leu Gly Gly Tyr Ser	Trp Gly Leu Gly Pro	Ala
	395	400	405
Pro Leu Leu Ser	Pro Asp Pro Ser Ser	Ala Ser Ala Ala Pro	Ile
	410	415	420
Gly Ser Gly Glu	Asp Glu Val Gln Gln	Thr Ala Ala Arg Ile	Ala
	425	430	435
Gly Ala Leu Gly	Gly Leu Leu Thr Pro	Leu Phe Leu Arg Gly	Val
	440	445	450
Leu Ala Tyr Leu	Ile Trp Trp Thr Ala	Ala Cys Gln Leu Leu	Ala
	455	460	465
Ser Leu Phe Gly	Leu Tyr Phe His Gln	His Leu Ala Gly Ser	
	470	475	

<210> 217  
 <211> 574  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 5, 146  
 <223> unknown base

<400> 217  
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 ggaggagctt cgggccctgg cggggaagcc gagggccaga ggcaggaaag 200  
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 gatgccccgt tccagctgga gacctgcccc ctcacgaccg tggatgccct 300  
 ggtcctgcgc ttcttcctgg agtaccagtg gtttgtggac tttgctgtgt 350

actcggggcgg cgtgtacctc ttcacagagg cctactacta catgctggga 400  
 ccagccaagg agactaacat tgctgtgttc tggcgcctgc tcacagtgc 450  
 cttctccatc aagatgttcc tgacagtgc acggctgtac ttcagcgccg 500  
 aggagggggg tgagcgctct gtctgcctca cctttgcctt cctcttctg 550  
 ctgctggcca tgctgggtgca agcg 574

<210> 218  
 <211> 2571  
 <212> DNA  
 <213> Homo sapiens

<400> 218  
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 ttgtgatcta ctgattgtgg gggcatggca aggtttgctt aaaggagctt 150  
 ggctgggttg ggcccttgta gctgacagaa ggtggccagg gagaatgcag 200  
 cacactgctc ggagaatgaa ggcgcttctg ttgctgggtc tgccttggct 250  
 cagtcctgct aactacattg acaatgtggg caacctgcac ttctgtatt 300  
 cagaactctg taaagggtgc tccactacg gcctgaccaa agataggaag 350  
 aggcgctcac aagatggctg tccagacggc tgtgcgagcc tcacagccac 400  
 ggctccctcc ccagagggtt ctgcagctgc caccatctcc ttaatgacag 450  
 acgagcctgg cctagacaac cctgcctacg tgcctcggc agaggacggg 500  
 cagccagcaa tcagcccagt ggactctggc cggagcaacc gaactagggc 550  
 acggcccttt gagagatcca ctattagaag cagatcattt aaaaaataa 600  
 atcgagcttt gagtgttctt cgaaggacaa agagcgggag tgcagttgcc 650  
 aaccatgccg accagggcag ggaaaattct gaaaacacca ctgcccctga 700  
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 taaagggtcaa cgggatggac atcagcaatg tccctcacia ctacgtgtg 950  
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 acagaagttc cgcagcagga acaatggaca ggccccggat gcctacagac 1050  
 cccgagatga cagctttcat gtgattctca acaaaagtag ccccgaggag 1100  
 cagcttgga taaaactggg gcgcaagggt gatgagcctg gggttttcat 1150  
 cttcaatgtg ctggatggcg gtgtggcata tcgacatggt cagcttgagg 1200

agaatgaccg tgtgttagcc atcaatggac atgatcttcg atatggcagc 1250  
ccagaaagtg cggctcatct gattcaggcc agtgaaagac gtgttcacct 1300  
cgtcgtgtcc cgccagggtc ggcagcggag ccctgacatc tttcaggaag 1350  
ccggctggaa cagcaatggc agctgggtccc cagggccagg ggagaggagc 1400  
aacactccca agcccccca tctacaatt acttgatcatg agaaggtggt 1450  
aaatatccaa aaagaccccg gtgaatctct cggcatgacc gtcgcagggg 1500  
gagcatcaca tagagaatgg gatttgccca tctatgtcat cagtgttgag 1550  
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gttgaatgtg gatgggggtc aactgacaga ggtcagccgg agtgaggcag 1650  
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cgaagaaaca cagctggaag tctgggcttc tgcattgtag gaggttatga 1900  
agaatacaat ggaaacaaac cttttttcat caaatccatt gttgaaggaa 1950  
caccagcata caatgatgga agaattagat gtggtgatat tcttcttgct 2000  
gtcaatggta gaagtacatc aggaatgata catgcttgct tggcaagact 2050  
gctgaaagaa cttaaaggaa gaattactct aactattgtt tcttggcctg 2100  
gcactttttt atagaatcaa tgatgggtca gaggaaaaca gaaaaatcac 2150  
aaataggcta agaagttgaa aactatatt tatcttgta gtttttatat 2200  
ttaaagaaag aatacattgt aaaaatgtca ggaaaagtat gatcatctaa 2250  
tgaaagccag ttacacctca gaaaatatga ttccaaaaaa attaaaacta 2300  
ctagtttttt ttcagtgtgg aggatttctc attactctac aacattgttt 2350  
atattttttc tattcaataa aaagccctaa aacaactaaa atgattgatt 2400  
tgtatacccc actgaattca agctgattta aatttaaaat ttggtatatg 2450  
ctgaagtctg ccaagggtac attatggcca tttttaattt acagctaaaa 2500  
tattttttta aatgcattgc tgagaaacgt tgctttcatc aaacaagaat 2550  
aaatattttt cagaagttaa a 2571

<210> 219

<211> 632

<212> PRT

<213> Homo sapiens

<400> 219

Met Lys Ala Leu Leu Leu Leu Val Leu Pro Trp Leu Ser Pro Ala

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Asn Tyr Ile Asp	Asn Val Gly Asn Leu His	Phe Leu Tyr Ser	Glu
	20	25	30
Leu Cys Lys Gly	Ala Ser His Tyr Gly	Leu Thr Lys Asp Arg	Lys
	35	40	45
Arg Arg Ser Gln	Asp Gly Cys Pro Asp	Gly Cys Ala Ser Leu	Thr
	50	55	60
Ala Thr Ala Pro	Ser Pro Glu Val Ser	Ala Ala Ala Thr Ile	Ser
	65	70	75
Leu Met Thr Asp	Glu Pro Gly Leu Asp	Asn Pro Ala Tyr Val	Ser
	80	85	90
Ser Ala Glu Asp	Gly Gln Pro Ala Ile	Ser Pro Val Asp Ser	Gly
	95	100	105
Arg Ser Asn Arg	Thr Arg Ala Arg Pro	Phe Glu Arg Ser Thr	Ile
	110	115	120
Arg Ser Arg Ser	Phe Lys Lys Ile Asn	Arg Ala Leu Ser Val	Leu
	125	130	135
Arg Arg Thr Lys	Ser Gly Ser Ala Val	Ala Asn His Ala Asp	Gln
	140	145	150
Gly Arg Glu Asn	Ser Glu Asn Thr Thr	Ala Pro Glu Val Phe	Pro
	155	160	165
Arg Leu Tyr His	Leu Ile Pro Asp Gly	Glu Ile Thr Ser Ile	Lys
	170	175	180
Ile Asn Arg Val	Asp Pro Ser Glu Ser	Leu Ser Ile Arg Leu	Val
	185	190	195
Gly Gly Ser Glu	Thr Pro Leu Val His	Ile Ile Ile Gln His	Ile
	200	205	210
Tyr Arg Asp Gly	Val Ile Ala Arg Asp	Gly Arg Leu Leu Pro	Gly
	215	220	225
Asp Ile Ile Leu	Lys Val Asn Gly Met	Asp Ile Ser Asn Val	Pro
	230	235	240
His Asn Tyr Ala	Val Arg Leu Leu Arg	Gln Pro Cys Gln Val	Leu
	245	250	255
Trp Leu Thr Val	Met Arg Glu Gln Lys	Phe Arg Ser Arg Asn	Asn
	260	265	270
Gly Gln Ala Pro	Asp Ala Tyr Arg Pro	Arg Asp Asp Ser Phe	His
	275	280	285
Val Ile Leu Asn	Lys Ser Ser Pro Glu	Glu Gln Leu Gly Ile	Lys
	290	295	300
Leu Val Arg Lys	Val Asp Glu Pro Gly	Val Phe Ile Phe Asn	Val
	305	310	315
Leu Asp Gly Gly	Val Ala Tyr Arg His	Gly Gln Leu Glu Glu	Asn

	320		325		330
Asp Arg Val Leu	Ala Ile Asn Gly His	Asp Leu Arg Tyr Gly	Ser		
	335	340	345		
Pro Glu Ser Ala	Ala His Leu Ile Gln	Ala Ser Glu Arg Arg	Val		
	350	355	360		
His Leu Val Val	Ser Arg Gln Val Arg	Gln Arg Ser Pro Asp	Ile		
	365	370	375		
Phe Gln Glu Ala	Gly Trp Asn Ser Asn	Gly Ser Trp Ser Pro	Gly		
	380	385	390		
Pro Gly Glu Arg	Ser Asn Thr Pro Lys	Pro Leu His Pro Thr	Ile		
	395	400	405		
Thr Cys His Glu	Lys Val Val Asn Ile	Gln Lys Asp Pro Gly	Glu		
	410	415	420		
Ser Leu Gly Met	Thr Val Ala Gly Gly	Ala Ser His Arg Glu	Trp		
	425	430	435		
Asp Leu Pro Ile	Tyr Val Ile Ser Val	Glu Pro Gly Gly Val	Ile		
	440	445	450		
Ser Arg Asp Gly	Arg Ile Lys Thr Gly	Asp Ile Leu Leu Asn	Val		
	455	460	465		
Asp Gly Val Glu	Leu Thr Glu Val Ser	Arg Ser Glu Ala Val	Ala		
	470	475	480		
Leu Leu Lys Arg	Thr Ser Ser Ser Ile	Val Leu Lys Ala Leu	Glu		
	485	490	495		
Val Lys Glu Tyr	Glu Pro Gln Glu Asp	Cys Ser Ser Pro Ala	Ala		
	500	505	510		
Leu Asp Ser Asn	His Asn Met Ala Pro	Pro Ser Asp Trp Ser	Pro		
	515	520	525		
Ser Trp Val Met	Trp Leu Glu Leu Pro	Arg Cys Leu Tyr Asn	Cys		
	530	535	540		
Lys Asp Ile Val	Leu Arg Arg Asn Thr	Ala Gly Ser Leu Gly	Phe		
	545	550	555		
Cys Ile Val Gly	Gly Tyr Glu Glu Tyr	Asn Gly Asn Lys Pro	Phe		
	560	565	570		
Phe Ile Lys Ser	Ile Val Glu Gly Thr	Pro Ala Tyr Asn Asp	Gly		
	575	580	585		
Arg Ile Arg Cys	Gly Asp Ile Leu Leu	Ala Val Asn Gly Arg	Ser		
	590	595	600		
Thr Ser Gly Met	Ile His Ala Cys Leu	Ala Arg Leu Leu Lys	Glu		
	605	610	615		
Leu Lys Gly Arg	Ile Thr Leu Thr Ile	Val Ser Trp Pro Gly	Thr		
	620	625	630		
Phe Leu					



<210> 220  
 <211> 773  
 <212> DNA  
 <213> Homo sapiens

<400> 220  
 ccaaagtgat catttgaaaa agagatatcc acatcttcaa gcccatataa 50  
 aggatagaag ctgcacaggg cagctttact tactccagca ccttcctctc 100  
 ccaggcaaat ggtgctgacc atctttggga tacaatctca tggatacgag 150  
 gtttttaaca tcatcagccc aagcaacaat ggtggcaatg ttcaggagac 200  
 agtgacaatt gataatgaaa aaaataccgc catcgttaac atccatgcag 250  
 gatcatgctc ttctaccaca atttttgact ataaacatgg ctacattgca 300  
 tccaggggtgc tctcccgaag agcctgcttt atcctgaaga tggaccatca 350  
 gaacatccct cctctgaaca atctccaatg gtacatctat gagaaacagg 400  
 ctctgggacaa catgttctcc aacaaatata cctgggtcaa gtacaaccct 450  
 ctggagtctc tgatcaaaga cgtggattgg ttcctgcttg ggtcacccat 500  
 tgagaaactc tgcaaacata tccctttgta taagggggaa gtggttgaaa 550  
 acacacataa tgtcggtgct ggaggctgtg caaaggctgg gctcctgggc 600  
 atcttgggaa tttcaatctg tgcagacatt catgtttagg atgattagcc 650  
 ctcttgtttt atcttttcaa agaaatacat ccttggttta cactcaaaag 700  
 tcaaattaaa ttctttccca atgcccacac taattttgag attcagtcag 750  
 aaaatataaa tgctgtatatt ata 773

<210> 221  
 <211> 184  
 <212> PRT  
 <213> Homo sapiens

<400> 221  
 Met Lys Ile Leu Val Ala Phe Leu Val Val Leu Thr Ile Phe Gly  
 1 5 10 15  
 Ile Gln Ser His Gly Tyr Glu Val Phe Asn Ile Ile Ser Pro Ser  
 20 25 30  
 Asn Asn Gly Gly Asn Val Gln Glu Thr Val Thr Ile Asp Asn Glu  
 35 40 45  
 Lys Asn Thr Ala Ile Val Asn Ile His Ala Gly Ser Cys Ser Ser  
 50 55 60  
 Thr Thr Ile Phe Asp Tyr Lys His Gly Tyr Ile Ala Ser Arg Val  
 65 70 75  
 Leu Ser Arg Arg Ala Cys Phe Ile Leu Lys Met Asp His Gln Asn  
 80 85 90

Ile	Pro	Pro	Leu	Asn	Asn	Leu	Gln	Trp	Tyr	Ile	Tyr	Glu	Lys	Gln
				95					100					105
Ala	Leu	Asp	Asn	Met	Phe	Ser	Asn	Lys	Tyr	Thr	Trp	Val	Lys	Tyr
				110					115					120
Asn	Pro	Leu	Glu	Ser	Leu	Ile	Lys	Asp	Val	Asp	Trp	Phe	Leu	Leu
				125					130					135
Gly	Ser	Pro	Ile	Glu	Lys	Leu	Cys	Lys	His	Ile	Pro	Leu	Tyr	Lys
				140					145					150
Gly	Glu	Val	Val	Glu	Asn	Thr	His	Asn	Val	Gly	Ala	Gly	Gly	Cys
				155					160					165
Ala	Lys	Ala	Gly	Leu	Leu	Gly	Ile	Leu	Gly	Ile	Ser	Ile	Cys	Ala
				170					175					180

Asp Ile His Val

<210> 222  
 <211> 992  
 <212> DNA  
 <213> Homo sapiens

<400> 222  
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 acccaccgag gcatggggct ccctgggctg ttctgcttgg ccgtgctggc 100  
 tgccagcagc ttctccaagg cacgggagga agaaattacc cctgtggtct 150  
 ccattgccta caaagtcttg gaagttttcc ccaaaggccg ctgggtgctc 200  
 ataacctgct gtgcaccca gccaccaccg cccatcacct attccctctg 250  
 tggaaccaag aacatcaagg tggccaagaa ggtggtgaag acccagagc 300  
 cggcctcctt caacctcaac gtcacactca agtccagtcc agacctgctc 350  
 acctacttct gccgggcgtc ctccacctca ggtgcccagtg tggacagtgc 400  
 caggctacag atgcactggg agctgtggtc caagccagtg tctgagctgc 450  
 gggccaactt cactctgcag gacagagggg caggccccag ggtggagatg 500  
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 gaaggatggg caggtccacc tgcagcagag accatgccac aggcagcctg 600  
 ccaacttctc cttcctgcgg agccagacat cggactggtt ctggtgccag 650  
 gctgcaaaca acgccaatgt ccagcacagc gccctcacag tggtgcccc 700  
 aggtggtgac cagaagatgg aggactggca gggccccctg gagagcccca 750  
 tccttgccctt gccgctctac aggagcacc gccgtctgag tgaagaggag 800  
 tttggggggg tcaggatagg gaatggggag gtcagaggac gcaaagcagc 850  
 agccatgtag aatgaaccgt ccagagagcc aagcacggca gaggactgca 900

ggccatcagc gtgcactgtt cgtatttggg gttcatgcaa aatgagtgtg 950

ttttagctgc tcttgccaca aaaaaaaaaa aaaaaaaaaa aa 992

<210> 223

<211> 265

<212> PRT

<213> Homo sapiens

<400> 223

Met	Gly	Leu	Pro	Gly	Leu	Phe	Cys	Leu	Ala	Val	Leu	Ala	Ala	Ser
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Ser	Phe	Ser	Lys	Ala	Arg	Glu	Glu	Glu	Ile	Thr	Pro	Val	Val	Ser
				20					25					30
Ile	Ala	Tyr	Lys	Val	Leu	Glu	Val	Phe	Pro	Lys	Gly	Arg	Trp	Val
				35					40					45
Leu	Ile	Thr	Cys	Cys	Ala	Pro	Gln	Pro	Pro	Pro	Pro	Ile	Thr	Tyr
				50					55					60
Ser	Leu	Cys	Gly	Thr	Lys	Asn	Ile	Lys	Val	Ala	Lys	Lys	Val	Val
				65					70					75
Lys	Thr	His	Glu	Pro	Ala	Ser	Phe	Asn	Leu	Asn	Val	Thr	Leu	Lys
				80					85					90
Ser	Ser	Pro	Asp	Leu	Leu	Thr	Tyr	Phe	Cys	Arg	Ala	Ser	Ser	Thr
				95					100					105
Ser	Gly	Ala	His	Val	Asp	Ser	Ala	Arg	Leu	Gln	Met	His	Trp	Glu
				110					115					120
Leu	Trp	Ser	Lys	Pro	Val	Ser	Glu	Leu	Arg	Ala	Asn	Phe	Thr	Leu
				125					130					135
Gln	Asp	Arg	Gly	Ala	Gly	Pro	Arg	Val	Glu	Met	Ile	Cys	Gln	Ala
				140					145					150
Ser	Ser	Gly	Ser	Pro	Pro	Ile	Thr	Asn	Ser	Leu	Ile	Gly	Lys	Asp
				155					160					165
Gly	Gln	Val	His	Leu	Gln	Gln	Arg	Pro	Cys	His	Arg	Gln	Pro	Ala
				170					175					180
Asn	Phe	Ser	Phe	Leu	Pro	Ser	Gln	Thr	Ser	Asp	Trp	Phe	Trp	Cys
				185					190					195
Gln	Ala	Ala	Asn	Asn	Ala	Asn	Val	Gln	His	Ser	Ala	Leu	Thr	Val
				200					205					210
Val	Pro	Pro	Gly	Gly	Asp	Gln	Lys	Met	Glu	Asp	Trp	Gln	Gly	Pro
				215					220					225
Leu	Glu	Ser	Pro	Ile	Leu	Ala	Leu	Pro	Leu	Tyr	Arg	Ser	Thr	Arg
				230					235					240
Arg	Leu	Ser	Glu	Glu	Glu	Phe	Gly	Gly	Phe	Arg	Ile	Gly	Asn	Gly
				245					250					255
Glu	Val	Arg	Gly	Arg	Lys	Ala	Ala	Ala	Met					
				260					265					

<210> 224  
 <211> 1297  
 <212> DNA  
 <213> Homo sapiens

<400> 224  
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 ctctctttgc tatgacatca ccgtcatccc taagttcaga cctggaccac 150  
 ggtggtgtgc ggttcaaggc cagggtggatg aaaagacttt tcttcactat 200  
 gactgtggca acaagacagt cacacctgtc agtcccctgg ggaagaaact 250  
 aaatgtcaca acggcctgga aagcacagaa ccagtgactg agagaggtgg 300  
 tggacatact tacagagcaa ctgcgtgaca ttcagctgga gaattacaca 350  
 cccaaggaac ccctcaccct gcaggcaagg atgtcttgtg agcagaaaagc 400  
 tgaaggacac agcagtggat cttggcagtt cagtttcgat gggcagatct 450  
 tcctcctctt tgactcagag aagagaatgt ggacaacggg tcatcctgga 500  
 gccagaaaga tgaaagaaaa gtgggagaat gacaagggtg tggccatgtc 550  
 cttccattac ttctcaatgg gagactgtat aggatggctt gaggacttct 600  
 tgatgggcat ggacagcacc ctggagccaa gtgcaggagc accactcgcc 650  
 atgtcctcag gcacaacca actcagggcc acagccacca ccctcatcct 700  
 ttgctgcctc ctcatcatcc tcccctgctt catcctccct ggcactctgag 750  
 gagagtcctt tagagtgaca ggttaaagct gataccaaaa ggctcctgtg 800  
 agcacggtct tgatcaaact cgcccttctg tctggccagc tgcccacgac 850  
 ctacggtgta tgtccagtgg cctccagcag atcatgatga catcatggac 900  
 ccaatagctc attcactgcc ttgattcctt ttgccaacaa ttttaccagc 950  
 agttatacct aacatattat gcaattttct cttggtgcta cctgatggaa 1000  
 ttcttgcaact taaagttctg gctgactaaa caagatatat cattttcttt 1050  
 cttctctttt tgtttgaaa atcaagtact tctttgaatg atgatctctt 1100  
 tcttgcaa at gatattgtca gtaaaataat cacgttagac ttcagacctc 1150  
 tggggattct ttccgtgtcc tgaaagagaa tttttaaatt atttaataag 1200  
 aaaaaattta tattaatgat tgtttccttt agtaatttat tgttctgtac 1250  
 tgatatttaa ataaagagtt ctatttccca aaaaaaaaaa aaaaaaa 1297

<210> 225  
 <211> 246  
 <212> PRT  
 <213> Homo sapiens

<400> 225

Met	Ala	Ala	Ala	Ala	Ala	Thr	Lys	Ile	Leu	Leu	Cys	Leu	Pro	Leu
1				5					10					15
Leu	Leu	Leu	Leu	Ser	Gly	Trp	Ser	Arg	Ala	Gly	Arg	Ala	Asp	Pro
				20					25					30
His	Ser	Leu	Cys	Tyr	Asp	Ile	Thr	Val	Ile	Pro	Lys	Phe	Arg	Pro
				35					40					45
Gly	Pro	Arg	Trp	Cys	Ala	Val	Gln	Gly	Gln	Val	Asp	Glu	Lys	Thr
				50					55					60
Phe	Leu	His	Tyr	Asp	Cys	Gly	Asn	Lys	Thr	Val	Thr	Pro	Val	Ser
				65					70					75
Pro	Leu	Gly	Lys	Lys	Leu	Asn	Val	Thr	Thr	Ala	Trp	Lys	Ala	Gln
				80					85					90
Asn	Pro	Val	Leu	Arg	Glu	Val	Val	Asp	Ile	Leu	Thr	Glu	Gln	Leu
				95					100					105
Arg	Asp	Ile	Gln	Leu	Glu	Asn	Tyr	Thr	Pro	Lys	Glu	Pro	Leu	Thr
				110					115					120
Leu	Gln	Ala	Arg	Met	Ser	Cys	Glu	Gln	Lys	Ala	Glu	Gly	His	Ser
				125					130					135
Ser	Gly	Ser	Trp	Gln	Phe	Ser	Phe	Asp	Gly	Gln	Ile	Phe	Leu	Leu
				140					145					150
Phe	Asp	Ser	Glu	Lys	Arg	Met	Trp	Thr	Thr	Val	His	Pro	Gly	Ala
				155					160					165
Arg	Lys	Met	Lys	Glu	Lys	Trp	Glu	Asn	Asp	Lys	Val	Val	Ala	Met
				170					175					180
Ser	Phe	His	Tyr	Phe	Ser	Met	Gly	Asp	Cys	Ile	Gly	Trp	Leu	Glu
				185					190					195
Asp	Phe	Leu	Met	Gly	Met	Asp	Ser	Thr	Leu	Glu	Pro	Ser	Ala	Gly
				200					205					210
Ala	Pro	Leu	Ala	Met	Ser	Ser	Gly	Thr	Thr	Gln	Leu	Arg	Ala	Thr
				215					220					225
Ala	Thr	Thr	Leu	Ile	Leu	Cys	Cys	Leu	Leu	Ile	Ile	Leu	Pro	Cys
				230					235					240
Phe	Ile	Leu	Pro	Gly	Ile									
				245										

<210> 226

<211> 735

<212> DNA

<213> Homo sapiens

<400> 226

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tgctgctagc tgccttgggc ctcacaattt tcattctggt ttctgacttt 100

caagttatat accgtggaat ggagttgatc ccaaccataa catcgtggag 150

ggttttaatt ttggtggtag ccctcaccca attctggtgt ggctttcttt 200  
gcagaggatt ccaccttcaa aatcatgaac tctggctgtt gatcaaaaga 250  
gaatttggtat tctactctaa aagtcaatat aggacttggc aaaagaagct 300  
agcagaagac tcaacctggc ctcccataaa caggacagat tattcaggtg 350  
atggcaaaaaa tggattctac atcaacggag gctatgaaag ccatgaacag 400  
attccaaaaa gaaaactcaa attgggaggc caaccacag aacagcattt 450  
ctggggccagg ctgtaatcag aattgtcgtc gtacatgctc aacagcattg 500  
cttttttccc caaaattaac acattgtgga gaagtgatga tactctcccc 550  
ttacctttcc tctctccatt caagcattca aagtatattt tcaatgaatt 600  
aaaccttgca gcaagggacc ttagataggc ttattctgac tgtatgcttt 650  
accaatgaga gaaaaaaatg catttcctgt atcatccttt tcaataaact 700  
gtattcattt tgaaaaaaa aaaaaaaaa aaaaa 735

<210> 227  
<211> 115  
<212> PRT  
<213> Homo sapiens

<400> 227  
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Val Val Ala Leu Thr Gln Phe Trp Cys Gly Phe Leu Cys Arg Gly  
20 25 30  
Phe His Leu Gln Asn His Glu Leu Trp Leu Leu Ile Lys Arg Glu  
35 40 45  
Phe Gly Phe Tyr Ser Lys Ser Gln Tyr Arg Thr Trp Gln Lys Lys  
50 55 60  
Leu Ala Glu Asp Ser Thr Trp Pro Pro Ile Asn Arg Thr Asp Tyr  
65 70 75  
Ser Gly Asp Gly Lys Asn Gly Phe Tyr Ile Asn Gly Gly Tyr Glu  
80 85 90  
Ser His Glu Gln Ile Pro Lys Arg Lys Leu Lys Leu Gly Gly Gln  
95 100 105  
Pro Thr Glu Gln His Phe Trp Ala Arg Leu  
110 115

<210> 228  
<211> 2185  
<212> DNA  
<213> Homo sapiens

<400> 228  
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cacaccatga agctcttgtg gcaggtaact gtgcaccacc acacctggaa 100

tgccatcctg ctcccgttcg tctacctcac ggcgcaagtg tggattctgt 150  
 gtgcagccat cgctgctgcc gcctcagccg ggccccagaa ctgcccctcc 200  
 gtttgctcgt gcagtaacca gttcagcaag gtgggtgtgca cgcgccgggg 250  
 cctctccgag gtcccgcagg gtattccctc gaacaccogg tacctcaacc 300  
 tcatggagaa caacatccag atgatccagg ccgacacctt ccgccacctc 350  
 caccacctgg aggtcctgca gttgggcagg aactccatcc ggcagattga 400  
 ggtggggggc ttcaacggcc tggccagcct caacaccctg gagctgttcg 450  
 acaactggct gacagtcatc cctagcgggg cctttgaata cctgtccaag 500  
 ctgcggggagc tctggcttcg caacaacccc atcgaaagca tcccctctta 550  
 cgccttcaac cgggtgccct ccctcatgog cctggacttg ggggagctca 600  
 agaagctgga gtatatctct gagggagctt ttgaggggct gttcaacctc 650  
 aagtatctga acttgggcat gtgcaacatt aaagacatgc ccaatctcac 700  
 ccccctggtg gggctggagg agctggagat gtcagggaac cacttccttg 750  
 agatcaggcc tggctccttc catggcctga gctccctcaa gaagctctgg 800  
 gtcatgaact cacaggtcag cctgattgag cggaatgctt ttgacgggct 850  
 ggcttcactt gtggaactca acttgGCCa caataacctc tcttctttgc 900  
 cccatgacct ctttaccocg ctgaggatcc tgggtggagt gcactctacac 950  
 cacaaccctt ggaactgtga ttgtgacatt ctgtggctag cctgggtggct 1000  
 tcgagagtat ataccaccca attccacctg ctgtggccgc tgtcatgctc 1050  
 ccatgcacat gcgaggccgc tacctcgtgg aggtggacca ggctcccttc 1100  
 cagtgtcttg cccocttcat catggaogca cctcgagacc tcaacatttc 1150  
 tgaggggtcg atggcagaac ttaagtgtcg gactccccct atgtcctccg 1200  
 tgaagtgggt gctgccaat gggacagtgc tcagccacgc ctcccggcac 1250  
 ccaaggatct ctgtcctcaa cgacggcacc ttgaactttt cccacgtgct 1300  
 gctttcagac actgggggtg acacatgcat ggtgaccaat gttgcaggca 1350  
 actccaacgc ctcggoctac ctcaatgtga gcacggctga gcttaacacc 1400  
 tccaaactaca gcttcttcac cacagtaaca gtggagacca cggagatctc 1450  
 gcctgaggac acaacgcgaa agtacaagcc tgttcctacc acgtccactg 1500  
 gttaccagcc ggcatatacc acctctacca cgggtgctcat tcagactacc 1550  
 cgtgtgcca agcaggtggc agtaccgcg acagacacca ctgacaagat 1600  
 gcagaccagc ctggatgaag tcatgaagac caccaagatc atcattggct 1650  
 gctttgtggc agtgactctg ctagctgccg ccatgttgat tgtcttctat 1700

aaacttcgta agcggcacca gcagcggagt acagtcacag ccgcccggac 1750  
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 cagcaacagc agctccgtcc ggtgtatcag gtgagggggc agtagtgctg 1850  
 cccacaattc atgaccatat taactacaac acctacaaac cagcacatgg 1900  
 ggcccactgg acagaaaaca gcctggggaa ctctctgcac cccacagtca 1950  
 ccactatctc tgaaccttat ataattcaga cccataccaa ggacaaggta 2000  
 caggaaactc aaatatgact cccctcccc aaaaaactta taaaatgcaa 2050  
 tagaatgcac acaaagacag caacttttgt acagagtggg gagagacttt 2100  
 ttcttgata tgcttatata ttaagtctat gggctggtta aaaaaaacag 2150  
 attatattaa aatttaaaga caaaaagtca aaaca 2185

<210> 229

<211> 653

<212> PRT

<213> Homo sapiens

<400> 229

Met	Lys	Leu	Leu	Trp	Gln	Val	Thr	Val	His	His	His	Thr	Trp	Asn
1				5					10					15
Ala	Ile	Leu	Leu	Pro	Phe	Val	Tyr	Leu	Thr	Ala	Gln	Val	Trp	Ile
				20					25					30
Leu	Cys	Ala	Ala	Ile	Ala	Ala	Ala	Ala	Ser	Ala	Gly	Pro	Gln	Asn
				35					40					45
Cys	Pro	Ser	Val	Cys	Ser	Cys	Ser	Asn	Gln	Phe	Ser	Lys	Val	Val
				50					55					60
Cys	Thr	Arg	Arg	Gly	Leu	Ser	Glu	Val	Pro	Gln	Gly	Ile	Pro	Ser
				65					70					75
Asn	Thr	Arg	Tyr	Leu	Asn	Leu	Met	Glu	Asn	Asn	Ile	Gln	Met	Ile
				80					85					90
Gln	Ala	Asp	Thr	Phe	Arg	His	Leu	His	His	Leu	Glu	Val	Leu	Gln
				95					100					105
Leu	Gly	Arg	Asn	Ser	Ile	Arg	Gln	Ile	Glu	Val	Gly	Ala	Phe	Asn
				110					115					120
Gly	Leu	Ala	Ser	Leu	Asn	Thr	Leu	Glu	Leu	Phe	Asp	Asn	Trp	Leu
				125					130					135
Thr	Val	Ile	Pro	Ser	Gly	Ala	Phe	Glu	Tyr	Leu	Ser	Lys	Leu	Arg
				140					145					150
Glu	Leu	Trp	Leu	Arg	Asn	Asn	Pro	Ile	Glu	Ser	Ile	Pro	Ser	Tyr
				155					160					165
Ala	Phe	Asn	Arg	Val	Pro	Ser	Leu	Met	Arg	Leu	Asp	Leu	Gly	Glu
				170					175					180
Leu	Lys	Lys	Leu	Glu	Tyr	Ile	Ser	Glu	Gly	Ala	Phe	Glu	Gly	Leu



				185					190					195
Phe	Asn	Leu	Lys	Tyr 200	Leu	Asn	Leu	Gly	Met 205	Cys	Asn	Ile	Lys	Asp 210
Met	Pro	Asn	Leu	Thr 215	Pro	Leu	Val	Gly	Leu 220	Glu	Glu	Leu	Glu	Met 225
Ser	Gly	Asn	His	Phe 230	Pro	Glu	Ile	Arg	Pro 235	Gly	Ser	Phe	His	Gly 240
Leu	Ser	Ser	Leu	Lys 245	Lys	Leu	Trp	Val	Met 250	Asn	Ser	Gln	Val	Ser 255
Leu	Ile	Glu	Arg	Asn 260	Ala	Phe	Asp	Gly	Leu 265	Ala	Ser	Leu	Val	Glu 270
Leu	Asn	Leu	Ala	His 275	Asn	Asn	Leu	Ser	Ser 280	Leu	Pro	His	Asp	Leu 285
Phe	Thr	Pro	Leu	Arg 290	Tyr	Leu	Val	Glu	Leu 295	His	Leu	His	His	Asn 300
Pro	Trp	Asn	Cys	Asp 305	Cys	Asp	Ile	Leu	Trp 310	Leu	Ala	Trp	Trp	Leu 315
Arg	Glu	Tyr	Ile	Pro 320	Thr	Asn	Ser	Thr	Cys 325	Cys	Gly	Arg	Cys	His 330
Ala	Pro	Met	His	Met 335	Arg	Gly	Arg	Tyr	Leu 340	Val	Glu	Val	Asp	Gln 345
Ala	Ser	Phe	Gln	Cys 350	Ser	Ala	Pro	Phe	Ile 355	Met	Asp	Ala	Pro	Arg 360
Asp	Leu	Asn	Ile	Ser 365	Glu	Gly	Arg	Met	Ala 370	Glu	Leu	Lys	Cys	Arg 375
Thr	Pro	Pro	Met	Ser 380	Ser	Val	Lys	Trp	Leu 385	Leu	Pro	Asn	Gly	Thr 390
Val	Leu	Ser	His	Ala 395	Ser	Arg	His	Pro	Arg 400	Ile	Ser	Val	Leu	Asn 405
Asp	Gly	Thr	Leu	Asn 410	Phe	Ser	His	Val	Leu 415	Leu	Ser	Asp	Thr	Gly 420
Val	Tyr	Thr	Cys	Met 425	Val	Thr	Asn	Val	Ala 430	Gly	Asn	Ser	Asn	Ala 435
Ser	Ala	Tyr	Leu	Asn 440	Val	Ser	Thr	Ala	Glu 445	Leu	Asn	Thr	Ser	Asn 450
Tyr	Ser	Phe	Phe	Thr 455	Thr	Val	Thr	Val	Glu 460	Thr	Thr	Glu	Ile	Ser 465
Pro	Glu	Asp	Thr	Thr 470	Arg	Lys	Tyr	Lys	Pro 475	Val	Pro	Thr	Thr	Ser 480
Thr	Gly	Tyr	Gln	Pro 485	Ala	Tyr	Thr	Thr	Ser 490	Thr	Thr	Val	Leu	Ile 495
Gln	Thr	Thr	Arg	Val	Pro	Lys	Gln	Val	Ala	Val	Pro	Ala	Thr	Asp

500	505	510
Thr Thr Asp Lys Met Gln Thr Ser Leu	Asp Glu Val Met Lys Thr	
515	520	525
Thr Lys Ile Ile Ile Gly Cys Phe Val	Ala Val Thr Leu Leu Ala	
530	535	540
Ala Ala Met Leu Ile Val Phe Tyr Lys	Leu Arg Lys Arg His Gln	
545	550	555
Gln Arg Ser Thr Val Thr Ala Ala Arg	Thr Val Glu Ile Ile Gln	
560	565	570
Val Asp Glu Asp Ile Pro Ala Ala Thr	Ser Ala Ala Ala Thr Ala	
575	580	585
Ala Pro Ser Gly Val Ser Gly Glu Gly	Ala Val Val Leu Pro Thr	
590	595	600
Ile His Asp His Ile Asn Tyr Asn Thr	Tyr Lys Pro Ala His Gly	
605	610	615
Ala His Trp Thr Glu Asn Ser Leu Gly	Asn Ser Leu His Pro Thr	
620	625	630
Val Thr Thr Ile Ser Glu Pro Tyr Ile	Ile Gln Thr His Thr Lys	
635	640	645
Asp Lys Val Gln Glu Thr Gln Ile		
650		

<210> 230  
 <211> 2846  
 <212> DNA  
 <213> Homo sapiens

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 tacacagtca ttaatgaagc ctgccctgga gcagagtgga atatcatgtg 150  
 tcgggagtg tgtgaatatg atcagattga gtgcgtctgc cccggaaaga 200  
 gggaagtgt gggttatacc atcccttgct gcaggaatga ggagaatgag 250  
 tgtgactcct gcctgatcca cccaggttgt accatctttg aaaactgcaa 300  
 gagctgccga aatggctcat gggggggtac cttggatgac ttctatgtga 350  
 aggggttcta ctgtgcagag tgccgagcag gctggtacgg aggagactgc 400  
 atgcgatgtg gccaggttct gcgagcccca aagggtcaga ttttgttgga 450  
 aagctatccc ctaaagtctc actgtgaatg gaccattcat gctaaacctg 500  
 ggtttgtcat ccaactaaga tttgtcatgt tgagtctgga gtttgactac 550  
 atgtgccagt atgactatgt tgaggttcgt gatggagaca accgcgatgg 600  
 ccagatcatc aagcgtgtct gtggcaacga gcggccagct cctatccaga 650

gcataggatc ctactccac gtcctcttcc actccgatgg ctccaagaat 700  
 tttgacgggt tccatgccat ttatgaggag atcacagcat gtcctcatc 750  
 cccttgtttc catgacggca cgtgcgtcct tgacaaggct ggatcttaca 800  
 agtgtgcctg cttggcaggc tatactgggc agcgtgtga aaatctcctt 850  
 gaagaaagaa actgctcaga ccctgggggc ccagtcaatg ggtaccagaa 900  
 aataacaggg ggccctgggc ttatcaacgg acgcatgct aaaattggca 950  
 ccgtggtgtc tttcttttgt aacaactcct atgttcttag tggcaatgag 1000  
 aaaagaactt gccagcagaa tggagagtgg tcagggaac agcccatctg 1050  
 cataaaagcc tgccgagaac caaagatttc agacctggtg agaaggagag 1100  
 ttcttccgat gcaggttcag tcaagggaga caccattaca ccagctatac 1150  
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 agcccttccc tttggagatc tgcccatggg ataccaacat ctgcataccc 1250  
 agctccagta tgagtgcac tcaccttct accgccgcct gggcagcagc 1300  
 aggaggacat gtctgaggac tgggaagtgg agtgggcggg caccatcctg 1350  
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 ggttgcgctg gccgtggcag gcagccatct acaggaggac cagcggggtg 1450  
 catgacggca gcctacacaa gggagcgtgg ttcctagtct gcagcgggtg 1500  
 cctggtgaat gagcgcactg tgggtggtgg tgccactgt gttactgacc 1550  
 tggggaaggt caccatgatc aagacagcag acctgaaagt tgttttgggg 1600  
 aaattctacc gggatgatga ccgggatgag aagaccatcc agagcctaca 1650  
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 ggagtccac atcactgtgg ctggctggaa tgtcctggca gacgtgagga 1850  
 gccctggctt caagaacgac aactgcgct ctggggtggt cagtgtggtg 1900  
 gactcgtgc tgtgtgagga gcagcatgag gaccatggca tcccagtgag 1950  
 tgtcactgat aacatgttct gtgccagctg ggaaccact gcccttctg 2000  
 atatctgcac tgcagagaca ggaggcatcg cggctgtgtc cttcccggga 2050  
 cgagcatctc ctgagccacg ctggcatctg atgggactgg tcagctggag 2100  
 ctatgataaa acatgcagcc acaggctctc cactgccttc accaagggtg 2150  
 tgccctttta agactggatt gaaagaaata tgaaatgaac catgctcatg 2200  
 cactccttga gaagtgtttc tgtatatccg tctgtacgtg tgcattgag 2250

tgaagcagtg tgggcctgaa gtgtgatttg gcctgtgaac ttggctgtgc 2300  
cagggcttct gacttcaggg acaaaactca gtgaagggtg agtagacctc 2350  
cattgctggg aggctgatgc cgcgtccact actaggacag ccaattggaa 2400  
gatgccaggg cttgcaagaa gtaagtttct tcaaagaaga ccatatacaa 2450  
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gaatgccatc agcttgacca gggaagatct gggcttcatg agggcccttt 2550  
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gagctgggat gtggtgcatg cttttgtgta catggccaca gtacagtctg 2650  
gtccttttcc ttccccatct cttgtacaca ttttaataaa ataagggttg 2700  
gcttctgaac tacaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2750  
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<210> 231  
<211> 720  
<212> PRT  
<213> Homo sapiens

<400> 231  
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Glu Ala Cys Pro Gly Ala Glu Trp Asn Ile Met Cys Arg Glu Cys  
35 40 45  
Cys Glu Tyr Asp Gln Ile Glu Cys Val Cys Pro Gly Lys Arg Glu  
50 55 60  
Val Val Gly Tyr Thr Ile Pro Cys Cys Arg Asn Glu Glu Asn Glu  
65 70 75  
Cys Asp Ser Cys Leu Ile His Pro Gly Cys Thr Ile Phe Glu Asn  
80 85 90  
Cys Lys Ser Cys Arg Asn Gly Ser Trp Gly Gly Thr Leu Asp Asp  
95 100 105  
Phe Tyr Val Lys Gly Phe Tyr Cys Ala Glu Cys Arg Ala Gly Trp  
110 115 120  
Tyr Gly Gly Asp Cys Met Arg Cys Gly Gln Val Leu Arg Ala Pro  
125 130 135  
Lys Gly Gln Ile Leu Leu Glu Ser Tyr Pro Leu Asn Ala His Cys  
140 145 150  
Glu Trp Thr Ile His Ala Lys Pro Gly Phe Val Ile Gln Leu Arg  
155 160 165

Phe	Val	Met	Leu	Ser	Leu	Glu	Phe	Asp	Tyr	Met	Cys	Gln	Tyr	Asp	
				170					175					180	
Tyr	Val	Glu	Val	Arg	Asp	Gly	Asp	Asn	Arg	Asp	Gly	Gln	Ile	Ile	
				185					190					195	
Lys	Arg	Val	Cys	Gly	Asn	Glu	Arg	Pro	Ala	Pro	Ile	Gln	Ser	Ile	
				200					205					210	
Gly	Ser	Ser	Leu	His	Val	Leu	Phe	His	Ser	Asp	Gly	Ser	Lys	Asn	
				215					220					225	
Phe	Asp	Gly	Phe	His	Ala	Ile	Tyr	Glu	Glu	Ile	Thr	Ala	Cys	Ser	
				230					235					240	
Ser	Ser	Pro	Cys	Phe	His	Asp	Gly	Thr	Cys	Val	Leu	Asp	Lys	Ala	
				245					250					255	
Gly	Ser	Tyr	Lys	Cys	Ala	Cys	Leu	Ala	Gly	Tyr	Thr	Gly	Gln	Arg	
				260					265					270	
Cys	Glu	Asn	Leu	Leu	Glu	Glu	Arg	Asn	Cys	Ser	Asp	Pro	Gly	Gly	
				275					280					285	
Pro	Val	Asn	Gly	Tyr	Gln	Lys	Ile	Thr	Gly	Gly	Pro	Gly	Leu	Ile	
				290					295					300	
Asn	Gly	Arg	His	Ala	Lys	Ile	Gly	Thr	Val	Val	Ser	Phe	Phe	Cys	
				305					310					315	
Asn	Asn	Ser	Tyr	Val	Leu	Ser	Gly	Asn	Glu	Lys	Arg	Thr	Cys	Gln	
				320					325					330	
Gln	Asn	Gly	Glu	Trp	Ser	Gly	Lys	Gln	Pro	Ile	Cys	Ile	Lys	Ala	
				335					340					345	
Cys	Arg	Glu	Pro	Lys	Ile	Ser	Asp	Leu	Val	Arg	Arg	Arg	Val	Leu	
				350					355					360	
Pro	Met	Gln	Val	Gln	Ser	Arg	Glu	Thr	Pro	Leu	His	Gln	Leu	Tyr	
				365					370					375	
Ser	Ala	Ala	Phe	Ser	Lys	Gln	Lys	Leu	Gln	Ser	Ala	Pro	Thr	Lys	
				380					385					390	
Lys	Pro	Ala	Leu	Pro	Phe	Gly	Asp	Leu	Pro	Met	Gly	Tyr	Gln	His	
				395					400					405	
Leu	His	Thr	Gln	Leu	Gln	Tyr	Glu	Cys	Ile	Ser	Pro	Phe	Tyr	Arg	
				410					415					420	
Arg	Leu	Gly	Ser	Ser	Arg	Arg	Thr	Cys	Leu	Arg	Thr	Gly	Lys	Trp	
				425					430					435	
Ser	Gly	Arg	Ala	Pro	Ser	Cys	Ile	Pro	Ile	Cys	Gly	Lys	Ile	Glu	
				440					445					450	
Asn	Ile	Thr	Ala	Pro	Lys	Thr	Gln	Gly	Leu	Arg	Trp	Pro	Trp	Gln	
				455					460					465	
Ala	Ala	Ile	Tyr	Arg	Arg	Thr	Ser	Gly	Val	His	Asp	Gly	Ser	Leu	
				470					475					480	

His	Lys	Gly	Ala	Trp	Phe	Leu	Val	Cys	Ser	Gly	Ala	Leu	Val	Asn
				485					490					495
Glu	Arg	Thr	Val	Val	Val	Ala	Ala	His	Cys	Val	Thr	Asp	Leu	Gly
				500					505					510
Lys	Val	Thr	Met	Ile	Lys	Thr	Ala	Asp	Leu	Lys	Val	Val	Leu	Gly
				515					520					525
Lys	Phe	Tyr	Arg	Asp	Asp	Asp	Arg	Asp	Glu	Lys	Thr	Ile	Gln	Ser
				530					535					540
Leu	Gln	Ile	Ser	Ala	Ile	Ile	Leu	His	Pro	Asn	Tyr	Asp	Pro	Ile
				545					550					555
Leu	Leu	Asp	Ala	Asp	Ile	Ala	Ile	Leu	Lys	Leu	Leu	Asp	Lys	Ala
				560					565					570
Arg	Ile	Ser	Thr	Arg	Val	Gln	Pro	Ile	Cys	Leu	Ala	Ala	Ser	Arg
				575					580					585
Asp	Leu	Ser	Thr	Ser	Phe	Gln	Glu	Ser	His	Ile	Thr	Val	Ala	Gly
				590					595					600
Trp	Asn	Val	Leu	Ala	Asp	Val	Arg	Ser	Pro	Gly	Phe	Lys	Asn	Asp
				605					610					615
Thr	Leu	Arg	Ser	Gly	Val	Val	Ser	Val	Val	Asp	Ser	Leu	Leu	Cys
				620					625					630
Glu	Glu	Gln	His	Glu	Asp	His	Gly	Ile	Pro	Val	Ser	Val	Thr	Asp
				635					640					645
Asn	Met	Phe	Cys	Ala	Ser	Trp	Glu	Pro	Thr	Ala	Pro	Ser	Asp	Ile
				650					655					660
Cys	Thr	Ala	Glu	Thr	Gly	Gly	Ile	Ala	Ala	Val	Ser	Phe	Pro	Gly
				665					670					675
Arg	Ala	Ser	Pro	Glu	Pro	Arg	Trp	His	Leu	Met	Gly	Leu	Val	Ser
				680					685					690
Trp	Ser	Tyr	Asp	Lys	Thr	Cys	Ser	His	Arg	Leu	Ser	Thr	Ala	Phe
				695					700					705
Thr	Lys	Val	Leu	Pro	Phe	Lys	Asp	Trp	Ile	Glu	Arg	Asn	Met	Lys
				710					715					720

<210> 232  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 232  
 aggttcgtga tggagacaac cgcg 24

<210> 233  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 233  
tgtcaaggac gcactgccgt catg 24

<210> 234  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 234  
tggccagatc atcaagcgtg tctgtggcaa cgagcggcca gtcctatcc 50

<210> 235  
<211> 1964  
<212> DNA  
<213> Homo sapiens

<400> 235  
accaggcatt gtatcttcag ttgtcatcaa gttcgcaatc agattggaaa 50  
agctcaactt gaagctttct tgctgcagt gaagcagaga gatagatatt 100  
attcacgtaa taaaaaacat gggcttcaac ctgactttcc acctttccta 150  
caaattccga ttactgttgc tgttgacttt gtgcctgaca gtggttgggt 200  
gggccaccag taactacttc gtgggtgcca ttcaagagat tcctaaagca 250  
aaggagtcca tggctaattt ccataagacc ctcatcttgg ggaagggaaa 300  
aactctgact aatgaagcat ccacgaagaa ggtagaactt gacaactgtc 350  
cttctgtgtc tccttacctc agaggccaga gcaagctcat tttcaaacca 400  
gatctcactt tggaagaggt acaggcagaa aatcccaaag tgtccagagg 450  
ccggtatcgc cctcaggaat gtaaagcttt acagagggtc gccatcctcg 500  
ttccccaccg gaacagagag aaacacctga tgtacctgct ggaacatctg 550  
catcccttcc tgcagaggca gcagctggat tatggcatct acgtcatcca 600  
ccaggctgaa ggtaaaaagt ttaatcgagc caaactcttg aatgtgggct 650  
atctagaagc cctcaaggaa gaaaattggg actgctttat attccacgat 700  
gtggacctgg taccogagaa tgactttaac ctttacaagt gtgaggagca 750  
tccaagcat ctggtggttg gcaggaacag cactgggtac aggttacgtt 800  
acagtggata ttttgggggt gttactgccc taagcagaga gcagtttttc 850  
aagggtgaatg gattctctaa caactactgg ggatggggag gcgaagacga 900  
tgacctcaga ctcagggttg agctccaaag aatgaaaatt tccgggcccc 950  
tgctgaagt gggtaaatat acaatggtct tccacactag agacaaaggc 1000

aatgagggtga acgcagaacg gatgaagctc ttacaccaag tgtcacgagt 1050  
 ctggagaaca gatgggttga gtagttgttc ttataaatta gtatctgtgg 1100  
 aacacaatcc tttatatatc aacatcacag tggattttctg gtttggtgca 1150  
 tgaccctgga tcttttggtg atgtttggaa gaactgattc tttgtttgca 1200  
 ataattttgg cctagagact tcaaatagta gcacacatta agaacctgtt 1250  
 acagctcatt gttgagctga atttttcctt tttgtatttt cttagcagag 1300  
 ctctgtgtga tgtagagtat aaaacagttg taacaagaca gctttcttag 1350  
 tcattttgat catgaggggtt aaatattgta atatggatac ttgaaggact 1400  
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 ggccacagga aataagactg ctgaatgtct gagagaacca gagttgttct 1550  
 cgtccaagggt agaaaggtag gaagatacaa tactgttatt cattttatcct 1600  
 gtacaatcat ctgtgaagtg gtggtgtcag gtgagaaggc gtccacaaaa 1650  
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 ggtagcagga ggggtggagtg tcggctgcaa aggcagcagt agctgagctg 1750  
 gttgcaggtg ctgatagcct tcaggggagg acctgcccag gtatgccttc 1800  
 cagtgatgcc caccagagaa tacattctct attagttttt aaagagtttt 1850  
 tgtaaaatga ttttgtacaa gtaggatatg aattagcagt ttacaagttt 1900  
 acatattaac taataataaa tatgtctatc aaatacctct gtagtaaaat 1950  
 gtgaaaaagc aaaa 1964

<210> 236  
 <211> 344  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> Signal peptide  
 <222> 1-27  
 <223> Signal peptide

<220>  
 <221> N-glycosylation sites  
 <222> 4-7, 220-223, 335-338  
 <223> N-glycosylation sites

<220>  
 <221> Xylose isomerase proteins  
 <222> 191-201  
 <223> Xylose isomerase proteins

<400> 236  
 Met Gly Phe Asn Leu Thr Phe His Leu Ser Tyr Lys Phe Arg Leu  
 1 5 10 15



Leu	Leu	Leu	Leu	Thr	Leu	Cys	Leu	Thr	Val	Val	Gly	Trp	Ala	Thr	
				20					25					30	
Ser	Asn	Tyr	Phe	Val	Gly	Ala	Ile	Gln	Glu	Ile	Pro	Lys	Ala	Lys	
				35					40					45	
Glu	Phe	Met	Ala	Asn	Phe	His	Lys	Thr	Leu	Ile	Leu	Gly	Lys	Gly	
				50					55					60	
Lys	Thr	Leu	Thr	Asn	Glu	Ala	Ser	Thr	Lys	Lys	Val	Glu	Leu	Asp	
				65					70					75	
Asn	Cys	Pro	Ser	Val	Ser	Pro	Tyr	Leu	Arg	Gly	Gln	Ser	Lys	Leu	
				80					85					90	
Ile	Phe	Lys	Pro	Asp	Leu	Thr	Leu	Glu	Glu	Val	Gln	Ala	Glu	Asn	
				95					100					105	
Pro	Lys	Val	Ser	Arg	Gly	Arg	Tyr	Arg	Pro	Gln	Glu	Cys	Lys	Ala	
				110					115					120	
Leu	Gln	Arg	Val	Ala	Ile	Leu	Val	Pro	His	Arg	Asn	Arg	Glu	Lys	
				125					130					135	
His	Leu	Met	Tyr	Leu	Leu	Glu	His	Leu	His	Pro	Phe	Leu	Gln	Arg	
				140					145					150	
Gln	Gln	Leu	Asp	Tyr	Gly	Ile	Tyr	Val	Ile	His	Gln	Ala	Glu	Gly	
				155					160					165	
Lys	Lys	Phe	Asn	Arg	Ala	Lys	Leu	Leu	Asn	Val	Gly	Tyr	Leu	Glu	
				170					175					180	
Ala	Leu	Lys	Glu	Glu	Asn	Trp	Asp	Cys	Phe	Ile	Phe	His	Asp	Val	
				185					190					195	
Asp	Leu	Val	Pro	Glu	Asn	Asp	Phe	Asn	Leu	Tyr	Lys	Cys	Glu	Glu	
				200					205					210	
His	Pro	Lys	His	Leu	Val	Val	Gly	Arg	Asn	Ser	Thr	Gly	Tyr	Arg	
				215					220					225	
Leu	Arg	Tyr	Ser	Gly	Tyr	Phe	Gly	Gly	Val	Thr	Ala	Leu	Ser	Arg	
				230					235					240	
Glu	Gln	Phe	Phe	Lys	Val	Asn	Gly	Phe	Ser	Asn	Asn	Tyr	Trp	Gly	
				245					250					255	
Trp	Gly	Gly	Glu	Asp	Asp	Asp	Leu	Arg	Leu	Arg	Val	Glu	Leu	Gln	
				260					265					270	
Arg	Met	Lys	Ile	Ser	Arg	Pro	Leu	Pro	Glu	Val	Gly	Lys	Tyr	Thr	
				275					280					285	
Met	Val	Phe	His	Thr	Arg	Asp	Lys	Gly	Asn	Glu	Val	Asn	Ala	Glu	
				290					295					300	
Arg	Met	Lys	Leu	Leu	His	Gln	Val	Ser	Arg	Val	Trp	Arg	Thr	Asp	
				305					310					315	
Gly	Leu	Ser	Ser	Cys	Ser	Tyr	Lys	Leu	Val	Ser	Val	Glu	His	Asn	
				320					325					330	

Pro Leu Tyr Ile Asn Ile Thr Val Asp Phe Trp Phe Gly Ala  
 335 340

<210> 237  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 237  
 ccttacctca gaggccagag caagc 25

<210> 238  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 238  
 gagcttcacgc cgttctgcgt tcacc 25

<210> 239  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 239  
 caggaatgta aagctttaca gagggtcgcc atcctcgttc cccacc 46

<210> 240  
 <211> 2567  
 <212> DNA  
 <213> Homo sapiens

<400> 240  
 cgtgggccgg ggtcgcgcag cgggctgtgg gcgcgccgg aggagcgacc 50  
 gccgcagttc tcgagctcca gctgcattcc ctcccggtcc gccccacgct 100  
 tctcccgtc cgggccccgc aatggcccag gcagtgtggt cgcgcctcgg 150  
 ccgcacctc tggcttgctt gcctcctgcc ctggggcccc gcaggggtgg 200  
 ccgcaggcct gtatgaactc aatctcacca ccgatagccc tgccaccacg 250  
 ggagcgggtg tgaccatctc ggccagcctg gtggccaagg acaacggcag 300  
 cctggccctg cccgctgacg cccacctcta ccgcttcac tggtatccaca 350  
 ccccgtggt gcttactggc aagatggaga agggctcag ctccaccatc 400  
 cgtgtggtcg gccacgtgcc cggggaattc ccggtctctg tctgggtcac 450  
 tgccgctgac tgctggatgt gccagcctgt ggccaggggc tttgtggtcc 500  
 tccccatcac agagttcctc gtgggggacc ttgttgtcac ccagaacact 550

tccctaccct ggcccagctc ctatctcact aagaccgtcc tgaaagtctc 600  
 cttcctcctc caccgaccca gcaacttcct caagaccgcc ttgtttctct 650  
 acagctggga cttcggggac gggaccaga tgggtgactga agactccgtg 700  
 gtctattata actattccat catcgggacc ttcaccgtga agctcaaagt 750  
 ggtggcggag tgggaagagg tggagccgga tgccacgagg gctgtgaagc 800  
 agaagaccgg ggactttctc gcctcgtga agctgcagga aacccttcga 850  
 ggcatccaag tgttggggcc caccctaatt cagaccttcc aaaagatgac 900  
 cgtgaccttg aacttcctgg ggagccctcc tctgactgtg tgctggcgtc 950  
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 gtggccagca cagcgtacaa cctgacccac accttcaggg acctgggga 1050  
 ctactgcttc agcatccggg ccgagaatat catcagcaag acacatcagt 1100  
 accacaagat ccaggtgtgg ccctccagaa tccagccggc tgtctttgct 1150  
 ttcccatgtg ctacacttat cactgtgatg ttggccttca tcatgtacat 1200  
 gacctgagg aatgccactc agcaaaagga catggtggag aaccgggagc 1250  
 caccctctgg ggtcaggtgc tgctgccaga tgtgctgtgg gcctttcttg 1300  
 ctggagactc catctgagta cctggaaatt gttcgtgaga accacgggct 1350  
 gctcccgccc ctctataagt ctgtcaaac ttacaccgtg tgagcactcc 1400  
 ccctcccccac ccatctcag tgttaactga ctgctgactt ggagtttcca 1450  
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 cagccactga cataagcccc actcggttac caccctcttg acccctacc 1650  
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 gtgccagaga gctagaaaga aggtcataaa ggggttaaaa tccataacta 1850  
 aaggttgtac acatagatgg gcacactcac agagagaagt gtgcatgtac 1900  
 acacaccaca cacacacaca cacacacaca cacagaaata taaacacatg 1950  
 cgtcacatgg gcatttcaga tgatcagctc tgtatctggt taagtcgggt 2000  
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 gccctgacag gttctgggccc cgggccctcc ctttgtgctt tgtctctgca 2100  
 gttcttgccg cctttataag gccatcctag tccctgctgg ctggcagggg 2150

cctggatggg gggcaggact aatactgagt gattgcagag tgctttataa 2200  
 atatcacctt attttatcga aacccatctg tgaaactttc actgaggaaa 2250  
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 acgcctgtaa tcccagcact ttgggaggcc gaggcgggtg gatcacgaga 2350  
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 aaaaaaatac aaaaagttag ccgggcgtgg tgggtgggtgc ctgtagtccc 2450  
 agctactcgg gaggctgagg caggagaatg gtgcgaaccc gggaggcgga 2500  
 gcttgcatg agcccagatg gcgccactgc actccagcct gagtgcaga 2550  
 gcgagactct gtctcca 2567

<210> 241

<211> 423

<212> PRT

<213> Homo sapiens

<400> 241

Met	Ala	Gln	Ala	Val	Trp	Ser	Arg	Leu	Gly	Arg	Ile	Leu	Trp	Leu	1	5	10	15
Ala	Cys	Leu	Leu	Pro	Trp	Ala	Pro	Ala	Gly	Val	Ala	Ala	Gly	Leu	20	25	30	
Tyr	Glu	Leu	Asn	Leu	Thr	Thr	Asp	Ser	Pro	Ala	Thr	Thr	Gly	Ala	35	40	45	
Val	Val	Thr	Ile	Ser	Ala	Ser	Leu	Val	Ala	Lys	Asp	Asn	Gly	Ser	50	55	60	
Leu	Ala	Leu	Pro	Ala	Asp	Ala	His	Leu	Tyr	Arg	Phe	His	Trp	Ile	65	70	75	
His	Thr	Pro	Leu	Val	Leu	Thr	Gly	Lys	Met	Glu	Lys	Gly	Leu	Ser	80	85	90	
Ser	Thr	Ile	Arg	Val	Val	Gly	His	Val	Pro	Gly	Glu	Phe	Pro	Val	95	100	105	
Ser	Val	Trp	Val	Thr	Ala	Ala	Asp	Cys	Trp	Met	Cys	Gln	Pro	Val	110	115	120	
Ala	Arg	Gly	Phe	Val	Val	Leu	Pro	Ile	Thr	Glu	Phe	Leu	Val	Gly	125	130	135	
Asp	Leu	Val	Val	Thr	Gln	Asn	Thr	Ser	Leu	Pro	Trp	Pro	Ser	Ser	140	145	150	
Tyr	Leu	Thr	Lys	Thr	Val	Leu	Lys	Val	Ser	Phe	Leu	Leu	His	Asp	155	160	165	
Pro	Ser	Asn	Phe	Leu	Lys	Thr	Ala	Leu	Phe	Leu	Tyr	Ser	Trp	Asp	170	175	180	
Phe	Gly	Asp	Gly	Thr	Gln	Met	Val	Thr	Glu	Asp	Ser	Val	Val	Tyr	185	190	195	

Tyr	Asn	Tyr	Ser	Ile	Ile	Gly	Thr	Phe	Thr	Val	Lys	Leu	Lys	Val	
				200					205					210	
Val	Ala	Glu	Trp	Glu	Glu	Val	Glu	Pro	Asp	Ala	Thr	Arg	Ala	Val	
				215					220					225	
Lys	Gln	Lys	Thr	Gly	Asp	Phe	Ser	Ala	Ser	Leu	Lys	Leu	Gln	Glu	
				230					235					240	
Thr	Leu	Arg	Gly	Ile	Gln	Val	Leu	Gly	Pro	Thr	Leu	Ile	Gln	Thr	
				245					250					255	
Phe	Gln	Lys	Met	Thr	Val	Thr	Leu	Asn	Phe	Leu	Gly	Ser	Pro	Pro	
				260					265					270	
Leu	Thr	Val	Cys	Trp	Arg	Leu	Lys	Pro	Glu	Cys	Leu	Pro	Leu	Glu	
				275					280					285	
Glu	Gly	Glu	Cys	His	Pro	Val	Ser	Val	Ala	Ser	Thr	Ala	Tyr	Asn	
				290					295					300	
Leu	Thr	His	Thr	Phe	Arg	Asp	Pro	Gly	Asp	Tyr	Cys	Phe	Ser	Ile	
				305					310					315	
Arg	Ala	Glu	Asn	Ile	Ile	Ser	Lys	Thr	His	Gln	Tyr	His	Lys	Ile	
				320					325					330	
Gln	Val	Trp	Pro	Ser	Arg	Ile	Gln	Pro	Ala	Val	Phe	Ala	Phe	Pro	
				335					340					345	
Cys	Ala	Thr	Leu	Ile	Thr	Val	Met	Leu	Ala	Phe	Ile	Met	Tyr	Met	
				350					355					360	
Thr	Leu	Arg	Asn	Ala	Thr	Gln	Gln	Lys	Asp	Met	Val	Glu	Asn	Pro	
				365					370					375	
Glu	Pro	Pro	Ser	Gly	Val	Arg	Cys	Cys	Cys	Gln	Met	Cys	Cys	Gly	
				380					385					390	
Pro	Phe	Leu	Leu	Glu	Thr	Pro	Ser	Glu	Tyr	Leu	Glu	Ile	Val	Arg	
				395					400					405	
Glu	Asn	His	Gly	Leu	Leu	Pro	Pro	Leu	Tyr	Lys	Ser	Val	Lys	Thr	
				410					415					420	

Tyr Thr Val

<210> 242

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 242

catttcctta ccctggaccc agctcc 26

<210> 243

<211> 25

<212> DNA

<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 243  
gaaaggccca cagcacatct ggcag 25

<210> 244  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 244  
ccacgacccg agcaacttcc tcaagaccga cttgtttctc tacagc 46

<210> 245  
<211> 485  
<212> DNA  
<213> Homo sapiens

<400> 245  
gctcaagacc cagcagtggg acagccagac agacggcacg atggcactga 50  
gctcccagat ctgggccgct tgctctctgc tctctctcct cctcgccagc 100  
ctgaccagtg gctctgtttt ccacacaacag acgggacaac ttgcagagct 150  
gcaaccccag gacagagctg gagccagggc cagctggatg cccatgttcc 200  
agaggcgaag gaggcgagac acccacttcc ccattctgcat tttctgctgc 250  
ggctgctgtc atcgatcaaa gtgtgggatg tgctgcaaga cgtagaacct 300  
acctgccctg ccccgctccc ctcccttctt tattttattcc tgctgcccc 350  
gaacataggt cttggaataa aatggctggg tcttttggtt tccccaaaaa 400  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 450  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 485

<210> 246  
<211> 84  
<212> PRT  
<213> Homo sapiens

<400> 246  
Met Ala Leu Ser Ser Gln Ile Trp Ala Ala Cys Leu Leu Leu Leu  
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Leu Leu Leu Ala Ser Leu Thr Ser Gly Ser Val Phe Pro Gln Gln  
20 25 30  
Thr Gly Gln Leu Ala Glu Leu Gln Pro Gln Asp Arg Ala Gly Ala  
35 40 45  
Arg Ala Ser Trp Met Pro Met Phe Gln Arg Arg Arg Arg Arg Asp  
50 55 60  
Thr His Phe Pro Ile Cys Ile Phe Cys Cys Gly Cys Cys His Arg  
65 70 75

Ser Lys Cys Gly Met Cys Cys Lys Thr  
80

<210> 247  
<211> 2359  
<212> DNA  
<213> Homo sapiens

<400> 247  
ctgtcaggaa ggaccatctg aaggctgcaa tttgttctta gggaggcagg 50  
tgctggcctg gcctggatct tccaccatgt tctgttgct gccttttgat 100  
agcctgattg tcaaccttct gggcatctcc ctgactgtcc tcttcaccct 150  
ccttctcggt ttcacatag tgccagccat ttttgagtc tcctttggta 200  
tccgaaact ctacatgaaa agtctgttaa aaatctttgc gtgggctacc 250  
ttgagaatgg agcgaggagc caaggagaag aaccaccagc tttacaagcc 300  
ctacaccaac ggaatcattg caaaggatcc cacttcacta gaagaagaga 350  
tcaaagagat tcgtcgaagt ggtagtagta aggctctgga caacactcca 400  
gagttcgagc tctctgacat tttctacttt tgccggaaag gaatggagac 450  
cattatggat gatgaggaga caaagagatt ctgagcagaa gaactggagt 500  
cctggaacct gctgagcaga accaattata acttcagta catcagcctt 550  
cggctcacgg tctgtgggg gttaggagtg ctgattcggg actgctttct 600  
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tgggcacaac tgtggtggga tacttgccaa atgggaggtt taaggaattc 700  
atgagtaaac atgttcactt aatgtgttac cggatctgcg tgcgagcgt 750  
gacagccatc atcacctacc atgacaggga aaacagacca agaaatggtg 800  
gcatctgtgt ggccaatcat acctcaccga tcgatgtgat catcttgccc 850  
agcgatggct attatgccat ggtgggtcaa gtgcacgggg gactcatggg 900  
tgtgattcag agagccatgg tgaaggcctg cccacacgtc tggtttgagc 950  
gctcggaagt gaaggatcgc cacctggtgg ctaagagact gactgaacat 1000  
gtgcaagata aaagcaagct gcctatcctc atcttcccag aaggaacctg 1050  
catcaataat acatcgggtga tgatgttcaa aaaggaagt tttgaaattg 1100  
gagccacagt ttacctgtt gctatcaagt atgacctca atttggcgat 1150  
gccttctgga acagcagcaa atacgggatg gtgacgtacc tgctgcgaat 1200  
gatgaccagc tgggccattg tctgcagcgt gtggtacctg cctcccatga 1250  
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gccattgcc a ggcaggagg acttgtggac ctgctgtggg atgggggcct 1350

gaagagggag aaggtgaagg acacgttcaa ggaggagcag cagaagctgt 1400  
acagcaagat gatcgtgggg aaccacaagg acaggagccg ctcttgagcc 1450  
tgcctccagc tggctggggc caccgtgcgg ggtgccaacg ggctcagagc 1500  
tggagttgcc gccgccgccc ccaactgctgt gtcttttcca gactccaggg 1550  
ctccccgggc tgctctggat cccaggactc cggcttttgc cgagccgcag 1600  
cgggatccct gtgcacccgg cgcagcctac ccttggtggt ctaaaccgat 1650  
gctgctgggt gttgcgaccc aggacgagat gccttgtttc ttttacaata 1700  
agtcgttga ggaatgcat taaagtgaac tccccacctt tgcacgctgt 1750  
gcgggctgag tggttgggga gatgtggcca tggctcttggt ctagagatgg 1800  
cgggtacaaga gtctgttatg caagcccgtg tgccagggat gtgctggggg 1850  
cggccacccg ctctccagga aaggcacagc tgaggcactg tggctggctt 1900  
cggcctcaac atcgccccca gccttgagc tctgcagaca tgataggaag 1950  
gaaactgtca tctgcagggg ctttcagcaa aatgaagggt tagattttta 2000  
tgctgctgct gatgggggta ctaaaggag ggaagaggc caggtgggccc 2050  
gctgactggg ccatggggag aacgtgtgtt cgtactccag gctaaccctg 2100  
aactcccat gtgatgcgcg ctttggtgaa tgtgtgtctc ggtttcccca 2150  
tctgtaatat gagtcggggg gaatggtggt gattcctacc tcacagggct 2200  
gttggtgggga ttaaagtgtc gcgggtgagt gaaggacaca tcacgttcag 2250  
tgtttcaagt acaggcccac aaaacggggc acggcaggcc tgagctcaga 2300  
gctgctgcac tgggctttgg atttgttcct gtgagtaaata aaaactggct 2350  
ggtgaatga 2359

<210> 248  
<211> 456  
<212> PRT  
<213> Homo sapiens

<400> 248  
Met Phe Leu Leu Leu Pro Phe Asp Ser Leu Ile Val Asn Leu Leu  
1 5 10 15  
Gly Ile Ser Leu Thr Val Leu Phe Thr Leu Leu Leu Val Phe Ile  
20 25 30  
Ile Val Pro Ala Ile Phe Gly Val Ser Phe Gly Ile Arg Lys Leu  
35 40 45  
Tyr Met Lys Ser Leu Leu Lys Ile Phe Ala Trp Ala Thr Leu Arg  
50 55 60  
Met Glu Arg Gly Ala Lys Glu Lys Asn His Gln Leu Tyr Lys Pro  
65 70 75



Tyr	Thr	Asn	Gly	Ile	Ile	Ala	Lys	Asp	Pro	Thr	Ser	Leu	Glu	Glu	80	85	90
Glu	Ile	Lys	Glu	Ile	Arg	Arg	Ser	Gly	Ser	Ser	Lys	Ala	Leu	Asp	95	100	105
Asn	Thr	Pro	Glu	Phe	Glu	Leu	Ser	Asp	Ile	Phe	Tyr	Phe	Cys	Arg	110	115	120
Lys	Gly	Met	Glu	Thr	Ile	Met	Asp	Asp	Glu	Val	Thr	Lys	Arg	Phe	125	130	135
Ser	Ala	Glu	Glu	Leu	Glu	Ser	Trp	Asn	Leu	Leu	Ser	Arg	Thr	Asn	140	145	150
Tyr	Asn	Phe	Gln	Tyr	Ile	Ser	Leu	Arg	Leu	Thr	Val	Leu	Trp	Gly	155	160	165
Leu	Gly	Val	Leu	Ile	Arg	Tyr	Cys	Phe	Leu	Leu	Pro	Leu	Arg	Ile	170	175	180
Ala	Leu	Ala	Phe	Thr	Gly	Ile	Ser	Leu	Leu	Val	Val	Gly	Thr	Thr	185	190	195
Val	Val	Gly	Tyr	Leu	Pro	Asn	Gly	Arg	Phe	Lys	Glu	Phe	Met	Ser	200	205	210
Lys	His	Val	His	Leu	Met	Cys	Tyr	Arg	Ile	Cys	Val	Arg	Ala	Leu	215	220	225
Thr	Ala	Ile	Ile	Thr	Tyr	His	Asp	Arg	Glu	Asn	Arg	Pro	Arg	Asn	230	235	240
Gly	Gly	Ile	Cys	Val	Ala	Asn	His	Thr	Ser	Pro	Ile	Asp	Val	Ile	245	250	255
Ile	Leu	Ala	Ser	Asp	Gly	Tyr	Tyr	Ala	Met	Val	Gly	Gln	Val	His	260	265	270
Gly	Gly	Leu	Met	Gly	Val	Ile	Gln	Arg	Ala	Met	Val	Lys	Ala	Cys	275	280	285
Pro	His	Val	Trp	Phe	Glu	Arg	Ser	Glu	Val	Lys	Asp	Arg	His	Leu	290	295	300
Val	Ala	Lys	Arg	Leu	Thr	Glu	His	Val	Gln	Asp	Lys	Ser	Lys	Leu	305	310	315
Pro	Ile	Leu	Ile	Phe	Pro	Glu	Gly	Thr	Cys	Ile	Asn	Asn	Thr	Ser	320	325	330
Val	Met	Met	Phe	Lys	Lys	Gly	Ser	Phe	Glu	Ile	Gly	Ala	Thr	Val	335	340	345
Tyr	Pro	Val	Ala	Ile	Lys	Tyr	Asp	Pro	Gln	Phe	Gly	Asp	Ala	Phe	350	355	360
Trp	Asn	Ser	Ser	Lys	Tyr	Gly	Met	Val	Thr	Tyr	Leu	Leu	Arg	Met	365	370	375
Met	Thr	Ser	Trp	Ala	Ile	Val	Cys	Ser	Val	Trp	Tyr	Leu	Pro	Pro	380	385	390

Met	Thr	Arg	Glu	Ala	Asp	Glu	Asp	Ala	Val	Gln	Phe	Ala	Asn	Arg
				395					400					405
Val	Lys	Ser	Ala	Ile	Ala	Arg	Gln	Gly	Gly	Leu	Val	Asp	Leu	Leu
				410					415					420
Trp	Asp	Gly	Gly	Leu	Lys	Arg	Glu	Lys	Val	Lys	Asp	Thr	Phe	Lys
				425					430					435
Glu	Glu	Gln	Gln	Lys	Leu	Tyr	Ser	Lys	Met	Ile	Val	Gly	Asn	His
				440					445					450
Lys	Asp	Arg	Ser	Arg	Ser									
				455										

<210> 249  
 <211> 1103  
 <212> DNA  
 <213> Homo sapiens

<400> 249  
 gccctcgaa accaggactc cagcacctct ggtcccggcc tcacccggac 50  
 ccctggccct cacgtctcct ccagggatgg cgctggcggc tttgatgatc 100  
 gccctcggca gcctcggcct ccacacctgg caggcccagg ctgttccac 150  
 catcctgccc ctgggcctgg ctccagacac ctttgacgat acctatgtgg 200  
 gttgtgcaga ggagatggag gagaaggcag cccccctgct aaaggaggaa 250  
 atggcccacc atgccctgct gcgggaatcc tgggaggcag cccaggagac 300  
 ctgggaggac aagcgtcgag ggcttaacctt gccccctggc ttcaaagccc 350  
 agaatggaat agccattatg gtctacacca actcatcgaa caccttgtac 400  
 tgggagttga atcaggccgt gcggacgggc ggaggctccc gggagctcta 450  
 catgaggcac tttcccttca aggccctgca tttctacctg atccgggccc 500  
 tgcagctgct gcgaggcagt gggggctgca gcaggggacc tggggaggtg 550  
 gtgttccgag gtgtgggcag ccttcgcttt gaaccaaga ggctggggga 600  
 ctctgtccgc ttgggccagt ttgcctccag ctccctggat aaggcagtgg 650  
 cccacagatt tggggagaag aggcggggct gtgtgtctgc gccaggggtg 700  
 cagctagggt cacaatctga gggggcctcc tctctgcccc cctggaagac 750  
 tctgtctctt gcccctggag agttccagct ctcaggggtt gggccctgaa 800  
 agtccaacat ctgccactta ggagccctgg gaacgggtga cttcatatg 850  
 acgaagaggc acctccagca gccttgagaa gcaagaacat ggttccggac 900  
 ccagccctag cagccttctc cccaaccagg atgttggcct ggggaggcca 950  
 cagcagggct gaggggaactc tgctatgtga tggggacttc ctgggacaag 1000  
 caaggaaagt actgaggcag ccacttgatt gaacggtgtt gcaatgtgga 1050

gacatggagt tttattgagg tagctacgtg attaaatggt attgcagtgt 1100

gga 1103

<210> 250

<211> 240

<212> PRT

<213> Homo sapiens

<400> 250

Met	Ala	Leu	Ala	Ala	Leu	Met	Ile	Ala	Leu	Gly	Ser	Leu	Gly	Leu
1				5					10					15

His	Thr	Trp	Gln	Ala	Gln	Ala	Val	Pro	Thr	Ile	Leu	Pro	Leu	Gly
			20						25					30

Leu	Ala	Pro	Asp	Thr	Phe	Asp	Asp	Thr	Tyr	Val	Gly	Cys	Ala	Glu
			35						40					45

Glu	Met	Glu	Glu	Lys	Ala	Ala	Pro	Leu	Leu	Lys	Glu	Glu	Met	Ala
				50					55					60

His	His	Ala	Leu	Leu	Arg	Glu	Ser	Trp	Glu	Ala	Ala	Gln	Glu	Thr
				65					70					75

Trp	Glu	Asp	Lys	Arg	Arg	Gly	Leu	Thr	Leu	Pro	Pro	Gly	Phe	Lys
			80						85					90

Ala	Gln	Asn	Gly	Ile	Ala	Ile	Met	Val	Tyr	Thr	Asn	Ser	Ser	Asn
			95						100					105

Thr	Leu	Tyr	Trp	Glu	Leu	Asn	Gln	Ala	Val	Arg	Thr	Gly	Gly	Gly
				110					115					120

Ser	Arg	Glu	Leu	Tyr	Met	Arg	His	Phe	Pro	Phe	Lys	Ala	Leu	His
				125					130					135

Phe	Tyr	Leu	Ile	Arg	Ala	Leu	Gln	Leu	Leu	Arg	Gly	Ser	Gly	Gly
				140					145					150

Cys	Ser	Arg	Gly	Pro	Gly	Glu	Val	Val	Phe	Arg	Gly	Val	Gly	Ser
				155					160					165

Leu	Arg	Phe	Glu	Pro	Lys	Arg	Leu	Gly	Asp	Ser	Val	Arg	Leu	Gly
				170					175					180

Gln	Phe	Ala	Ser	Ser	Ser	Leu	Asp	Lys	Ala	Val	Ala	His	Arg	Phe
				185					190					195

Gly	Glu	Lys	Arg	Arg	Gly	Cys	Val	Ser	Ala	Pro	Gly	Val	Gln	Leu
				200					205					210

Gly	Ser	Gln	Ser	Glu	Gly	Ala	Ser	Ser	Leu	Pro	Pro	Trp	Lys	Thr
				215					220					225

Leu	Leu	Leu	Ala	Pro	Gly	Glu	Phe	Gln	Leu	Ser	Gly	Val	Gly	Pro
				230					235					240

<210> 251

<211> 50

<212> DNA

<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 251  
ccaccacctg gaggtcctgc agttgggcag gaactccatc cggcagattg 50

<210> 252  
<211> 1076  
<212> DNA  
<213> Homo sapiens

<400> 252  
gtggcttcat ttcagtggct gacttccaga gagcaatatg gctgggtccc 50  
caacatgcct caccctcatc tatatccttt ggcagctcac agggtcagca 100  
gcctctggac ccgtgaaaga gctggtcggt tccgttgggtg gggccgtgac 150  
tttccccctg aagtccaaag taaagcaagt tgactctatt gtctggacct 200  
tcaacacaac ccctcttgtc accatacagc cagaaggggg cactatcata 250  
gtgacccaaa atcgtaatag ggagagagta gacttcccag atggaggcta 300  
ctccctgaag ctgagcaaac tgaagaagaa tgactcaggg atctactatg 350  
tggggatata cagctcatca ctccagcagc cctccacca ggagtacgtg 400  
ctgcatgtct acgagcacct gtcaaagcct aaagtcacca tgggtctgca 450  
gagcaataag aatggcacct gtgtgaccaa tctgacatgc tgcattggaac 500  
atggggaaga ggatgtgatt tatacctgga aggccctggg gcaagcagcc 550  
aatgagtccc ataatgggtc catcctcccc atctcctgga gatggggaga 600  
aagtgatatg accttcatct gcgttgccag gaaccctgtc agcagaaact 650  
tctcaagccc catccttgcc aggaagctct gtgaagggtc tgctgatgac 700  
ccagattcct ccattggtcct cctgtgtctc ctggttggtc cctcctgct 750  
cagtctcttt gtactggggc tatttctttg gtttctgaag agagagagac 800  
aagaagagta cattgaagag aagaagagag tggacatttg tcgggaaact 850  
cctaacatat gccccattc tggagagaac acagagtacg acacaatccc 900  
tcacactaat agaacaatcc taaaggaaga tccagcaaat acggtttact 950  
ccactgtgga aataccgaaa aagatggaaa atccccactc actgctcacg 1000  
atgccagaca caccaaggct atttgcttat gagaatgtta tctagacagc 1050  
agtgcactcc cctaagtctc tgctca 1076

<210> 253  
<211> 335  
<212> PRT  
<213> Homo sapiens

<400> 253  
Met Ala Gly Ser Pro Thr Cys Leu Thr Leu Ile Tyr Ile Leu Trp

1	5	10	15
Gln Leu Thr Gly Ser	Ala Ala Ser Gly	Pro Val Lys Glu Leu Val	
	20	25	30
Gly Ser Val Gly Gly	Ala Val Thr Phe	Pro Leu Lys Ser Lys Val	
	35	40	45
Lys Gln Val Asp Ser	Ile Val Trp Thr	Phe Asn Thr Thr Pro Leu	
	50	55	60
Val Thr Ile Gln Pro	Glu Gly Gly Thr	Ile Ile Val Thr Gln Asn	
	65	70	75
Arg Asn Arg Glu Arg	Val Asp Phe Pro	Asp Gly Gly Tyr Ser Leu	
	80	85	90
Lys Leu Ser Lys Leu	Lys Lys Asn Asp	Ser Gly Ile Tyr Tyr Val	
	95	100	105
Gly Ile Tyr Ser Ser	Ser Leu Gln Gln	Pro Ser Thr Gln Glu Tyr	
	110	115	120
Val Leu His Val Tyr	Glu His Leu Ser	Lys Pro Lys Val Thr Met	
	125	130	135
Gly Leu Gln Ser Asn	Lys Asn Gly Thr	Cys Val Thr Asn Leu Thr	
	140	145	150
Cys Cys Met Glu His	Gly Glu Glu Asp	Val Ile Tyr Thr Trp Lys	
	155	160	165
Ala Leu Gly Gln Ala	Ala Asn Glu Ser	His Asn Gly Ser Ile Leu	
	170	175	180
Pro Ile Ser Trp Arg	Trp Gly Glu Ser	Asp Met Thr Phe Ile Cys	
	185	190	195
Val Ala Arg Asn Pro	Val Ser Arg Asn	Phe Ser Ser Pro Ile Leu	
	200	205	210
Ala Arg Lys Leu Cys	Glu Gly Ala Ala	Asp Asp Pro Asp Ser Ser	
	215	220	225
Met Val Leu Leu Cys	Leu Leu Leu Val	Pro Leu Leu Leu Ser Leu	
	230	235	240
Phe Val Leu Gly Leu	Phe Leu Trp Phe	Leu Lys Arg Glu Arg Gln	
	245	250	255
Glu Glu Tyr Ile Glu	Glu Lys Lys Arg	Val Asp Ile Cys Arg Glu	
	260	265	270
Thr Pro Asn Ile Cys	Pro His Ser Gly	Glu Asn Thr Glu Tyr Asp	
	275	280	285
Thr Ile Pro His Thr	Asn Arg Thr Ile	Leu Lys Glu Asp Pro Ala	
	290	295	300
Asn Thr Val Tyr Ser	Thr Val Glu Ile	Pro Lys Lys Met Glu Asn	
	305	310	315
Pro His Ser Leu Leu	Thr Met Pro Asp	Thr Pro Arg Leu Phe Ala	

330

<400> 255  
gaaagacgtg gtcctgacag acagacaatc ctattcccta ccaaaatgaa 50

gatgctgctg ctgctgtggt tgggactgac cctagtctgt gtccatgcag 100  
aagaagctag ttctacggga aggaacttta atgtagaaaa gattaatggg 150  
gaatggcata ctattatcct ggcctctgac aaaagagaaa agatagaaga 200  
acatggcaac tttagacttt ttctggagca aatccatgtc ttggagaatt 250  
ccttagttct taaagtccat actgtaagag atgaagagtg ctccgaatta 300  
tctatgggtg ctgacaaaac agaaaaggct ggtgaatatt ctgtgacgta 350  
tgatggattc aatacattta ctatacctaa gacagactat gataactttc 400  
ttatggctca cctcattaac gaaaaggatg gggaaacctt ccagctgatg 450  
gggctctatg gccgagaacc agatttgagt tcagacatca aggaaagggt 500  
tgcacaacta tgtgaggagc atggaatcct tagagaaaat atcattgacc 550  
tatccaatgc caatcgctgc ctccaggccc gagaatgaag aatggcctga 600  
gcctccagtg ttgagtggac acttctcacc aggactccac catcatccct 650  
tcctatccat acagcatccc cagtataaat tctgtgatct gcattccatc 700  
ctgtctcact gagaagtcca attccagtct atcaacatgt tacctaggat 750  
acctcatcaa gaatcaaaga cttctttaaa tttctctttg atacaccctt 800  
gacaattttt catgaaatta ttctctttcc tgttcaataa atgattaccc 850  
ttgcacttaa 860

<210> 256  
<211> 180  
<212> PRT  
<213> Homo sapiens

<400> 256  
Met Lys Met Leu Leu Leu Leu Cys Leu Gly Leu Thr Leu Val Cys  
1 5 10 15  
Val His Ala Glu Glu Ala Ser Ser Thr Gly Arg Asn Phe Asn Val  
20 25 30  
Glu Lys Ile Asn Gly Glu Trp His Thr Ile Ile Leu Ala Ser Asp  
35 40 45  
Lys Arg Glu Lys Ile Glu Glu His Gly Asn Phe Arg Leu Phe Leu  
50 55 60  
Glu Gln Ile His Val Leu Glu Asn Ser Leu Val Leu Lys Val His  
65 70 75  
Thr Val Arg Asp Glu Glu Cys Ser Glu Leu Ser Met Val Ala Asp  
80 85 90  
Lys Thr Glu Lys Ala Gly Glu Tyr Ser Val Thr Tyr Asp Gly Phe  
95 100 105  
Asn Thr Phe Thr Ile Pro Lys Thr Asp Tyr Asp Asn Phe Leu Met  
110 115 120

Ala	His	Leu	Ile	Asn	Glu	Lys	Asp	Gly	Glu	Thr	Phe	Gln	Leu	Met
				125					130					135
Gly	Leu	Tyr	Gly	Arg	Glu	Pro	Asp	Leu	Ser	Ser	Asp	Ile	Lys	Glu
				140					145					150
Arg	Phe	Ala	Gln	Leu	Cys	Glu	Glu	His	Gly	Ile	Leu	Arg	Glu	Asn
				155					160					165
Ile	Ile	Asp	Leu	Ser	Asn	Ala	Asn	Arg	Cys	Leu	Gln	Ala	Arg	Glu
				170					175					180

<210> 257  
 <211> 766  
 <212> DNA  
 <213> Homo sapiens

<400> 257  
 ggctcgagcg tttctgagcc aggggtgacc atgacctgct gcgaaggatg 50  
 gacatcctgc aatggattca gcctgctggt tctactgctg ttaggagtag 100  
 ttctcaatgc gatacctcta attgtcagct tagttgagga agaccaatth 150  
 tctcaaaacc ccatctcttg ctttgagtgg tggttcccag gaattatagg 200  
 agcaggtctg atggccattc cagcaacaac aatgtccttg acagcaagaa 250  
 aaagagcgtg ctgcaacaac agaactggaa tgtttctttc atcatttttc 300  
 agtgtgatca cagtcattgg tgctctgtat tgcattgctga tatccatcca 350  
 ggctctctta aaaggctctc tcatgtgtaa ttctccaagc aacagtaatg 400  
 ccaattgtga attttcattg aaaaacatca gtgacattca tccagaatcc 450  
 ttcaacttgc agtgggtttt caatgactct tgtgcacctc ctactggttt 500  
 caataaacc accagtaacg acaccatggc gagggtgctg agagcatcta 550  
 gtttccactt cgattctgaa gaaaacaaac ataggcttat ccacttctca 600  
 gtatttttag gtctattgct tgttggaatt ctggagggtcc tgtttgggct 650  
 cagtcagata gtcacgggtt tcttggtgctg tctgtgtgga gtctctaagc 700  
 gaagaagtca aattgtgtag tttaattggga ataaatgta agtatcagta 750  
 gtttgaaaaa aaaaaa 766

<210> 258  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 258  
 Met Thr Cys Cys Glu Gly Trp Thr Ser Cys Asn Gly Phe Ser Leu  
 1 5 10 15  
 Leu Val Leu Leu Leu Leu Gly Val Val Leu Asn Ala Ile Pro Leu  
 20 25 30  
 Ile Val Ser Leu Val Glu Glu Asp Gln Phe Ser Gln Asn Pro Ile



	35	40	45
Ser Cys Phe Glu Trp Trp Phe Pro Gly Ile Ile Gly Ala Gly Leu	50	55	60
Met Ala Ile Pro Ala Thr Thr Met Ser Leu Thr Ala Arg Lys Arg	65	70	75
Ala Cys Cys Asn Asn Arg Thr Gly Met Phe Leu Ser Ser Phe Phe	80	85	90
Ser Val Ile Thr Val Ile Gly Ala Leu Tyr Cys Met Leu Ile Ser	95	100	105
Ile Gln Ala Leu Leu Lys Gly Pro Leu Met Cys Asn Ser Pro Ser	110	115	120
Asn Ser Asn Ala Asn Cys Glu Phe Ser Leu Lys Asn Ile Ser Asp	125	130	135
Ile His Pro Glu Ser Phe Asn Leu Gln Trp Phe Phe Asn Asp Ser	140	145	150
Cys Ala Pro Pro Thr Gly Phe Asn Lys Pro Thr Ser Asn Asp Thr	155	160	165
Met Ala Ser Gly Trp Arg Ala Ser Ser Phe His Phe Asp Ser Glu	170	175	180
Glu Asn Lys His Arg Leu Ile His Phe Ser Val Phe Leu Gly Leu	185	190	195
Leu Leu Val Gly Ile Leu Glu Val Leu Phe Gly Leu Ser Gln Ile	200	205	210
Val Ile Gly Phe Leu Gly Cys Leu Cys Gly Val Ser Lys Arg Arg	215	220	225
Ser Gln Ile Val			

<210> 259  
 <211> 434  
 <212> DNA  
 <213> Homo sapiens

<400> 259  
 gtcgaatcca aatcactcat tgtgaaagct gagctcacag ccgaataagc 50  
 caccatgagg ctgtcagtgt gtctcctgat ggtctcgctg gccctttgct 100  
 gctaccaggc ccatgctott gtctgcccag ctgttgcttc tgagatcaca 150  
 gtctttcttat tottaagtga cgctgoggta aacctccaag ttgccaaact 200  
 taatccacct ccagaagctc ttgcagccaa gttggaagtg aagcactgca 250  
 ccgatcagat atcttttaag aaacgactct cattgaaaaa gtcttggtgg 300  
 aaatagtga aaatgtggt gtgtgacatg taaaaatgct caacctggtt 350  
 tccaaagtct ttcaacgaca cctgatctt cactaaaaat tgtaaagggt 400

tcaacacgtt gctttaataa atcacttgcc ctgc 434

<210> 260

<211> 83

<212> PRT

<213> Homo sapiens

<400> 260

Met Arg Leu Ser Val Cys Leu Leu Met Val Ser Leu Ala Leu Cys  
1 5 10 15  
Cys Tyr Gln Ala His Ala Leu Val Cys Pro Ala Val Ala Ser Glu  
20 25 30  
Ile Thr Val Phe Leu Phe Leu Ser Asp Ala Ala Val Asn Leu Gln  
35 40 45  
Val Ala Lys Leu Asn Pro Pro Pro Glu Ala Leu Ala Ala Lys Leu  
50 55 60  
Glu Val Lys His Cys Thr Asp Gln Ile Ser Phe Lys Lys Arg Leu  
65 70 75  
Ser Leu Lys Lys Ser Trp Trp Lys  
80

<210> 261

<211> 636

<212> DNA

<213> Homo sapiens

<400> 261

atccgttctc tgcgctgcc a gctcaggtga gccctcgcca aggtgacctc 50  
gcaggacact ggtgaaggag cagtgaggaa cctgcagagt cacacagttg 100  
ctgaccaatt gagctgtgag cctggagcag atccgtgggc tgcagacccc 150  
cgccccagtg cctctcccc tgcagccctg cccctcgaac tgtgacatgg 200  
agagagtgac cctggccctt ctctactgg caggcctgac tgccttgga 250  
gccaatgacc catttgccaa taaagacgat cccttctact atgactggaa 300  
aaacctgcag ctgagcggac tgatctgcgg agggctcctg gccattgctg 350  
ggatcgcggc agttctgagt ggcaaatgca aatacaagag cagccagaag 400  
cagcacagtc ctgtacctga gaaggccatc cactcatca ctccaggctc 450  
tgccactact tgctgagcac aggactggcc tccagggatg gcctgaagcc 500  
taacactggc cccagcacc tcctcccctg ggaggcctta tcctcaagga 550  
aggacttctc tccaagggca ggtgttagg cccctttctg atcaggaggc 600  
ttctttatga attaaactcg cccaccacc ccctca 636

<210> 262

<211> 89

<212> PRT

<213> Homo sapiens

<400> 262

Met	Glu	Arg	Val	Thr	Leu	Ala	Leu	Leu	Leu	Ala	Gly	Leu	Thr
1				5				10				15	
Ala	Leu	Glu	Ala	Asn	Asp	Pro	Phe	Ala	Asn	Lys	Asp	Asp	Pro
			20					25				30	
Tyr	Tyr	Asp	Trp	Lys	Asn	Leu	Gln	Leu	Ser	Gly	Leu	Ile	Cys
			35					40				45	
Gly	Leu	Leu	Ala	Ile	Ala	Gly	Ile	Ala	Ala	Val	Leu	Ser	Gly
			50					55					60
Cys	Lys	Tyr	Lys	Ser	Ser	Gln	Lys	Gln	His	Ser	Pro	Val	Pro
			65					70					75
Lys	Ala	Ile	Pro	Leu	Ile	Thr	Pro	Gly	Ser	Ala	Thr	Thr	Cys
			80					85					

<210> 263

<211> 1676

<212> DNA

<213> Homo sapiens

<400> 263

ggagaagagg ttgtgtggga caagctgctc ccgacagaag gatgtcgctg 50

ctgagcctgc cctggctggg cctcagaccg gtggcaatgt ccccatggct 100

actcctgctg ctggttgtgg gctcctggct actcgccgc atcctggctt 150

ggacctatgc cttctataac aactgccgcc ggctccagtg tttccacag 200

ccccaaaac ggaactgggt ttgggggtcac ctgggcctga tcaactctac 250

agaggagggc ttgaaggact cgaccagat gtcggccacc tattcccagg 300

gctttacggt atggctgggt cccatcatcc ccttcatcgt tttatgccac 350

cctgacacca tccggtctat caccaatgcc tcagctgcca ttgcacccaa 400

ggataatctc ttcacaggt tcctgaagcc ctggctggga gaagggatac 450

tgctgagtgg cggtgacaag tggagccgcc accgtcggat gctgacgccc 500

gccttccatt tcaacatcct gaagtcctat ataacgatct tcaacaagag 550

tgcaaacatc atgcttgaca agtggcagca cctggcctca gagggcagca 600

gtcgtctgga catgtttgag cacatcagcc tcatgacott ggacagtcta 650

cagaaatgca tcttcagctt tgacagccat tgtcaggaga ggcccagtga 700

atatattgcc accatcttgg agctcagtc ccttgtagag aaaagaagcc 750

agcatatcct ccagcacatg gactttctgt attacctctc ccatgacggg 800

cggcgcttcc acagggcctg ccgcctggtg catgacttca cagacgctgt 850

catccgggag cggcgctgca cctcccccac tcagggtatt gatgattttt 900

tcaaagacaa agccaagtcc aagactttgg atttcattga tgtgcttctg 950

ctgagcaagg atgaagatgg gaaggcattg tcagatgagg atataagagc 1000  
agaggctgac accttcatgt ttggaggcca tgacaccacg gccagtggcc 1050  
tctcctgggt cctgtacaac cttgcgaggc acccagaata ccaggagcgc 1100  
tgccgacagg aggtgcaaga gcttctgaag gaccgcatc ctaaagagat 1150  
tgaatgggac gacctggccc agctgccctt cctgaccatg tgcgtgaagg 1200  
agagcctgag gttacatccc ccagctccct tcctctcccg atgctgcacc 1250  
caggacattg ttctcccaga tggccgagtc atcccccagg gcattacctg 1300  
cctcatcgat attatagggg tccatcacia cccaactgtg tggccggatc 1350  
ctgaggtcta cgacccttc cgctttgacc cagagaacag caaggggagg 1400  
tcacctctgg cttttattcc tttctccgca gggcccagga actgcatcgg 1450  
gcaggcggtc gccatggcgg agatgaaagt ggtcctggcg ttgatgctgc 1500  
tgacttccg gttcctgccg gaccacactg agccccgcag gaagctggaa 1550  
ttgatcatgc gcgccgaggg cgggctttgg ctgcgggtgg agcccctgaa 1600  
tgtaggcttg cagtgacttt ctgaccatc cacctgtttt tttgcagatt 1650  
gtcatgaata aaacggtgct gtcaaa 1676

<210> 264  
<211> 524  
<212> PRT  
<213> Homo sapiens

<400> 264  
Met Ser Leu Leu Ser Leu Pro Trp Leu Gly Leu Arg Pro Val Ala  
1 5 10 15  
Met Ser Pro Trp Leu Leu Leu Leu Val Val Gly Ser Trp Leu  
20 25 30  
Leu Ala Arg Ile Leu Ala Trp Thr Tyr Ala Phe Tyr Asn Asn Cys  
35 40 45  
Arg Arg Leu Gln Cys Phe Pro Gln Pro Pro Lys Arg Asn Trp Phe  
50 55 60  
Trp Gly His Leu Gly Leu Ile Thr Pro Thr Glu Glu Gly Leu Lys  
65 70 75  
Asp Ser Thr Gln Met Ser Ala Thr Tyr Ser Gln Gly Phe Thr Val  
80 85 90  
Trp Leu Gly Pro Ile Ile Pro Phe Ile Val Leu Cys His Pro Asp  
95 100 105  
Thr Ile Arg Ser Ile Thr Asn Ala Ser Ala Ala Ile Ala Pro Lys  
110 115 120  
Asp Asn Leu Phe Ile Arg Phe Leu Lys Pro Trp Leu Gly Glu Gly  
125 130 135

Ile	Leu	Leu	Ser	Gly	Gly	Asp	Lys	Trp	Ser	Arg	His	Arg	Arg	Met	
				140					145					150	
Leu	Thr	Pro	Ala	Phe	His	Phe	Asn	Ile	Leu	Lys	Ser	Tyr	Ile	Thr	
				155					160					165	
Ile	Phe	Asn	Lys	Ser	Ala	Asn	Ile	Met	Leu	Asp	Lys	Trp	Gln	His	
				170					175					180	
Leu	Ala	Ser	Glu	Gly	Ser	Ser	Arg	Leu	Asp	Met	Phe	Glu	His	Ile	
				185					190					195	
Ser	Leu	Met	Thr	Leu	Asp	Ser	Leu	Gln	Lys	Cys	Ile	Phe	Ser	Phe	
				200					205					210	
Asp	Ser	His	Cys	Gln	Glu	Arg	Pro	Ser	Glu	Tyr	Ile	Ala	Thr	Ile	
				215					220					225	
Leu	Glu	Leu	Ser	Ala	Leu	Val	Glu	Lys	Arg	Ser	Gln	His	Ile	Leu	
				230					235					240	
Gln	His	Met	Asp	Phe	Leu	Tyr	Tyr	Leu	Ser	His	Asp	Gly	Arg	Arg	
				245					250					255	
Phe	His	Arg	Ala	Cys	Arg	Leu	Val	His	Asp	Phe	Thr	Asp	Ala	Val	
				260					265					270	
Ile	Arg	Glu	Arg	Arg	Arg	Thr	Leu	Pro	Thr	Gln	Gly	Ile	Asp	Asp	
				275					280					285	
Phe	Phe	Lys	Asp	Lys	Ala	Lys	Ser	Lys	Thr	Leu	Asp	Phe	Ile	Asp	
				290					295					300	
Val	Leu	Leu	Leu	Ser	Lys	Asp	Glu	Asp	Gly	Lys	Ala	Leu	Ser	Asp	
				305					310					315	
Glu	Asp	Ile	Arg	Ala	Glu	Ala	Asp	Thr	Phe	Met	Phe	Gly	Gly	His	
				320					325					330	
Asp	Thr	Thr	Ala	Ser	Gly	Leu	Ser	Trp	Val	Leu	Tyr	Asn	Leu	Ala	
				335					340					345	
Arg	His	Pro	Glu	Tyr	Gln	Glu	Arg	Cys	Arg	Gln	Glu	Val	Gln	Glu	
				350					355					360	
Leu	Leu	Lys	Asp	Arg	Asp	Pro	Lys	Glu	Ile	Glu	Trp	Asp	Asp	Leu	
				365					370					375	
Ala	Gln	Leu	Pro	Phe	Leu	Thr	Met	Cys	Val	Lys	Glu	Ser	Leu	Arg	
				380					385					390	
Leu	His	Pro	Pro	Ala	Pro	Phe	Ile	Ser	Arg	Cys	Cys	Thr	Gln	Asp	
				395					400					405	
Ile	Val	Leu	Pro	Asp	Gly	Arg	Val	Ile	Pro	Lys	Gly	Ile	Thr	Cys	
				410					415					420	
Leu	Ile	Asp	Ile	Ile	Gly	Val	His	His	Asn	Pro	Thr	Val	Trp	Pro	
				425					430					435	
Asp	Pro	Glu	Val	Tyr	Asp	Pro	Phe	Arg	Phe	Asp	Pro	Glu	Asn	Ser	
				440					445					450	

Lys Gly Arg Ser Pro Leu Ala Phe Ile Pro Phe Ser Ala Gly Pro  
455 460 465

Arg Asn Cys Ile Gly Gln Ala Phe Ala Met Ala Glu Met Lys Val  
470 475 480

Val Leu Ala Leu Met Leu Leu His Phe Arg Phe Leu Pro Asp His  
485 490 495

Thr Glu Pro Arg Arg Lys Leu Glu Leu Ile Met Arg Ala Glu Gly  
500 505 510

Gly Leu Trp Leu Arg Val Glu Pro Leu Asn Val Gly Leu Gln  
515 520

<210> 265  
<211> 584  
<212> DNA  
<213> Homo sapiens

<400> 265  
caacagaagc caagaaggaa gccgtctatc ttgtggcgat catgtataag 50  
ctggcctcct gctgtttgct ttccacagga ttcttaaata ctctcttata 100  
tcttcctctc cttgactcca gggaaatata ctttcaactc tcagcacctc 150  
atgaagacgc gcgcttaact ccggaggagc tagaaagagc ttcccttcta 200  
cagatattgc cagagatgct ggggtgcagaa agaggggata ttctcaggaa 250  
agcagactca agtaccaaca tttttaaccc aagaggaaat ttgagaaagt 300  
ttcaggattt ctctggacaa gatcctaaca ttttactgag tcatcttttg 350  
gccagaatct ggaaaccata caagaaacgt gagactcctg attgcttctg 400  
gaaatactgt gtctgaagtg aaataagcat ctgttagtca gctcagaaac 450  
acctatctta gaatatgaaa aataacacaa tgcttgattt gaaaacagtg 500  
tggagaaaaa ctaggcaaac tacacctgtg tcattgttac ctggaaaata 550  
aatcctctat gttttgcaca aaaaaaaaaa aaaa 584

<210> 266  
<211> 124  
<212> PRT  
<213> Homo sapiens

<400> 266  
Met Tyr Lys Leu Ala Ser Cys Cys Leu Leu Phe Thr Gly Phe Leu  
1 5 10 15

Asn Pro Leu Leu Ser Leu Pro Leu Leu Asp Ser Arg Glu Ile Ser  
20 25 30

Phe Gln Leu Ser Ala Pro His Glu Asp Ala Arg Leu Thr Pro Glu  
35 40 45

Glu Leu Glu Arg Ala Ser Leu Leu Gln Ile Leu Pro Glu Met Leu  
50 55 60

Gly Ala Glu Arg Gly Asp Ile Leu Arg Lys Ala Asp Ser Ser Thr  
65 70 75  
Asn Ile Phe Asn Pro Arg Gly Asn Leu Arg Lys Phe Gln Asp Phe  
80 85 90  
Ser Gly Gln Asp Pro Asn Ile Leu Leu Ser His Leu Leu Ala Arg  
95 100 105  
Ile Trp Lys Pro Tyr Lys Lys Arg Glu Thr Pro Asp Cys Phe Trp  
110 115 120  
Lys Tyr Cys Val

<210> 267  
<211> 654  
<212> DNA  
<213> Homo sapiens

<400> 267  
gaacattttt agttcccaag gaatgtacat cagccccacg gaagctaggc 50  
cacctctggg atgggggtgc tggtttaaaa caaacgccag tcatacctata 100  
taaggacctg acagccacca ggcaccacct ccgccaggaa ctgcaggccc 150  
acctgtctgc aaccagctg aggccatgcc ctccccaggg accgtctgca 200  
gcctcctgct cctcggcatg ctctggctgg acttggccat ggcaggctcc 250  
agcttcctga gccctgaaca ccagagagtc cagcagagaa aggagtogaa 300  
gaagccacca gccaaagtgc agccccgagc tctagcaggc tggctccgcc 350  
cggaagatgg aggtcaagca gaaggggagc aggatgaact ggaagtccgg 400  
ttcaacgccc cttttgatgt tggaatcaag ctgtcagggg ttcagtacca 450  
gcagcacagc caggccctgg ggaagtttct tcaggacatc ctctgggaag 500  
aggccaaaga ggccccagcc gacaagtgat cggccacaag ctttactcac 550  
ctctctctaa gtttagaagc gctcatctgg cttttcgctt gcttctgcag 600  
caactcccac gactgttgta caagctcagg aggogaataa atgttcaaac 650  
tgta 654

<210> 268  
<211> 117  
<212> PRT  
<213> Homo sapiens

<400> 268  
Met Pro Ser Pro Gly Thr Val Cys Ser Leu Leu Leu Gly Met  
1 5 10 15  
Leu Trp Leu Asp Leu Ala Met Ala Gly Ser Ser Phe Leu Ser Pro  
20 25 30  
Glu His Gln Arg Val Gln Gln Arg Lys Glu Ser Lys Lys Pro Pro  
35 40 45

Ala	Lys	Leu	Gln	Pro	Arg	Ala	Leu	Ala	Gly	Trp	Leu	Arg	Pro	Glu
				50					55					60
Asp	Gly	Gly	Gln	Ala	Glu	Gly	Ala	Glu	Asp	Glu	Leu	Glu	Val	Arg
				65					70					75
Phe	Asn	Ala	Pro	Phe	Asp	Val	Gly	Ile	Lys	Leu	Ser	Gly	Val	Gln
				80					85					90
Tyr	Gln	Gln	His	Ser	Gln	Ala	Leu	Gly	Lys	Phe	Leu	Gln	Asp	Ile
				95					100					105
Leu	Trp	Glu	Glu	Ala	Lys	Glu	Ala	Pro	Ala	Asp	Lys			
				110					115					

<210> 269  
 <211> 1332  
 <212> DNA  
 <213> Homo sapiens

<400> 269  
 cggccacagc tggcatgctc tgccatgatcg ccacccctgct gtatgtcctc 50  
 gtccagtacc tcgtgaaccc cgggggtgctc cgcacggacc ccagatgtca 100  
 agaatatgaa cacgtggctg ctgttcctcc ccctgttccc ggtgcagggtg 150  
 cagaccctga tagtcgtgat catcgggatg ctcgtgctcc tgctggactt 200  
 tcttggcttg gtgcacctgg gccagctgct catcttccac atctacctga 250  
 gtatgtcccc caccctaagc ccccgatccc eccaaggctg ggtggtcaga 300  
 gctgctcatc ttacacctct acttgagtat gtccctaacc ctgagcccc 350  
 cagcctggg gccagagtct ttgtcccccg tgtgcgcatg tggtcagggt 400  
 cagcctctcc cagaagtga atcatggaca aaaagggcaa atcacaggaa 450  
 gaaattaaat ccatgaggac ccagcaggcc cagcaagaag ctgaactcac 500  
 gccgagacct gcaggagtgg tgccagggtg ttgaagtaac aagtttaaaa 550  
 tggttcagaga caatggaatg gaatctatta ggcaagaaca ggacattatg 600  
 aaataaggac aggtggactt ccaaaaacac aagtagaaat tctaacaatg 650  
 aaatatatta caggcaggtc acccactaac caaacaactg aagcgagagc 700  
 tgtggtcttg cttggtctca cagtgggcac agcggtaggc ggtcagtcac 750  
 gttgctgaac gacggagggt aaactcccca gccccaagaa aacctgtgtt 800  
 ggaagtaaca acaacctccc tgctcctggc accagccgtt ttggtcatgg 850  
 tgggccagct gcaaagcgtc ttccattctc tgggcagtgg tggccccgag 900  
 gctgtggcct ctcagggggg ttctgtggac acgggcagca gagtgtgtcc 950  
 aggccagccc ccaagaatgc cctgctcctg acagcttggc caaccctgg 1000  
 tcagggcaga gggagttggg tgggtcaggc tctgggtca cctccatctc 1050



cagagcatcc cctgcctgca gttgtggcaa gaacgcccag ctcagaatga 1100  
acacacccca ccaagagcct ccttgttcat aaccacaggt taccctacaa 1150  
accactgtcc ccacacaacc ctgggggatgt tttaaaacac acacctctaa 1200  
cgcatatctt acagtcactg ttgtcttgcc tgagggttga atttttttta 1250  
atgaaagtgc aatgaaaatc actggattaa atcctacgga cacagagctg 1300  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 1332

<210> 270  
<211> 142  
<212> PRT  
<213> Homo sapiens

<400> 270  
Met Asn Thr Trp Leu Leu Phe Leu Pro Leu Phe Pro Val Gln Val  
1 5 10 15  
Gln Thr Leu Ile Val Val Ile Ile Gly Met Leu Val Leu Leu Leu  
20 25 30  
Asp Phe Leu Gly Leu Val His Leu Gly Gln Leu Leu Ile Phe His  
35 40 45  
Ile Tyr Leu Ser Met Ser Pro Thr Leu Ser Pro Arg Ser Pro Gln  
50 55 60  
Gly Trp Val Val Arg Ala Ala His Leu Thr Pro Leu Leu Glu Tyr  
65 70 75  
Val Pro Asn Pro Glu Pro Pro Thr Pro Gly Ala Arg Val Phe Val  
80 85 90  
Pro Arg Val Arg Met Cys Ser Gly Ser Ala Ser Pro Arg Ser Glu  
95 100 105  
Ile Met Asp Lys Lys Gly Lys Ser Gln Glu Glu Ile Lys Ser Met  
110 115 120  
Arg Thr Gln Gln Ala Gln Gln Glu Ala Glu Leu Thr Pro Arg Pro  
125 130 135  
Ala Gly Val Val Pro Gly Ala  
140

<210> 271  
<211> 1484  
<212> DNA  
<213> Homo sapiens

<400> 271  
ggagtgcaga tggcatcctt cggttcttcc agacaagctg caagacgctg 50  
accatggcca agatggagct ctcgaaggcc ttctctggcc agcggacact 100  
cctatctgcc atcctcagca tgctatcact cagcttctcc acaacatccc 150  
tgctcagcaa ctactggttt gtgggcacac agaaggtgcc caagcccctg 200  
tgcgagaaag gtctggcagc caagtgcitt gacatgccag tgtccctgga 250

tggagatacc aacacatcca cccaggaggt ggtacaatac aactgggaga 300  
ctggggatga ccggttctcc ttccggagct tccggagtgg catgtggcta 350  
tcctgtgagg aaactgtgga agaaccaggg gagaggtgcc gaagtttcat 400  
tgaacttaca ccaccagcca agagaggtga gaaaggacta ctggaatttg 450  
ccacgttgca aggcccatgt caccocactc tccgatttgg agggaagcgg 500  
ttgatggaga aggttccct cccctccct ccttggggc tttgtggcaa 550  
aaatcctatg gttatccctg ggaacgcaga tcacctacat cggacttcaa 600  
ttcatcagct tcctcctgct actaacagac ttgctactca ctgggaaccc 650  
tgcctgtggg ctcaaactga ggcctttgc tgctgtttcc tctgtcctgt 700  
caggtctcct ggggatggtg gccacatga tgtattcaca agtcttcaa 750  
gcgactgtca acttgggtcc agaagactgg agaccacatg tttggaatta 800  
tggtgtggcc ttctacatgg cctggtctc cttcacctgc tgcattggcg 850  
cggctgtcac caccttcaac acgtacacca ggatggtgct ggagttcaag 900  
tgcaagcata gtaagagctt caaggaaaac ccgaactgcc taccacatca 950  
ccatcagtgt ttccctcggc ggctgtcaag tgcagcccc accgtgggtc 1000  
ctttgaccag ctaccaccag tatcataatc agcccatcca ctctgtctct 1050  
gagggagtcg acttctactc cgagctgcgg aacaaggat ttcaaagagg 1100  
ggccagccag gagctgaaag aagcagttag gtcattctgta gaggaagagc 1150  
agtgttagga gttaagcggg tttggggagt aggcttgagc cctaccttac 1200  
acgtctgctg attatcaaca tgtgcttaag ccaacatccg tctcttgagc 1250  
atggttttta gaggtacga ataaggctat gaataagggt tatctttaag 1300  
tcctaaggga ttccctgggtg ccaactgctc ttttctctc acagctccat 1350  
cttgtttcac ccacccaca tctcacacat ccagaattcc cttctttact 1400  
gatagtttct gtgccagggt ctgggctaaa ccatggagat aaaaagaaga 1450  
gtaaaatata cttcccgacc ttaaggatct gaaa 1484

<210> 272  
<211> 285  
<212> PRT  
<213> Homo sapiens

<400> 272  
Met Ala Lys Met Glu Leu Ser Lys Ala Phe Ser Gly Gln Arg Thr  
1 5 10 15  
Leu Leu Ser Ala Ile Leu Ser Met Leu Ser Leu Ser Phe Ser Thr  
20 25 30  
Thr Ser Leu Leu Ser Asn Tyr Trp Phe Val Gly Thr Gln Lys Val

	35	40	45
Pro Lys Pro Leu Cys Glu Lys Gly Leu Ala Ala Lys Cys Phe Asp	50	55	60
Met Pro Val Ser Leu Asp Gly Asp Thr Asn Thr Ser Thr Gln Glu	65	70	75
Val Val Gln Tyr Asn Trp Glu Thr Gly Asp Asp Arg Phe Ser Phe	80	85	90
Arg Ser Phe Arg Ser Gly Met Trp Leu Ser Cys Glu Glu Thr Val	95	100	105
Glu Glu Pro Gly Glu Arg Cys Arg Ser Phe Ile Glu Leu Thr Pro	110	115	120
Pro Ala Lys Arg Gly Glu Lys Gly Leu Leu Glu Phe Ala Thr Leu	125	130	135
Gln Gly Pro Cys His Pro Thr Leu Arg Phe Gly Gly Lys Arg Leu	140	145	150
Met Glu Lys Ala Ser Leu Pro Ser Pro Pro Leu Gly Leu Cys Gly	155	160	165
Lys Asn Pro Met Val Ile Pro Gly Asn Ala Asp His Leu His Arg	170	175	180
Thr Ser Ile His Gln Leu Pro Pro Ala Thr Asn Arg Leu Ala Thr	185	190	195
His Trp Glu Pro Cys Leu Trp Ala Gln Thr Glu Arg Leu Cys Cys	200	205	210
Cys Phe Leu Cys Pro Val Arg Ser Pro Gly Asp Gly Gly Pro His	215	220	225
Asp Val Phe Thr Ser Leu Pro Ser Asp Cys Gln Leu Gly Ser Arg	230	235	240
Arg Leu Glu Thr Thr Cys Leu Glu Leu Trp Leu Gly Leu Leu His	245	250	255
Gly Leu Ala Leu Leu His Leu Leu His Gly Val Gly Cys His His	260	265	270
Leu Gln His Val His Gln Asp Gly Ala Gly Val Gln Val Gln Ala	275	280	285

<210> 273

<211> 1158

<212> DNA

<213> Homo sapiens

<400> 273

aactggaagg aaagaaagaa aggtcagctt tggcccagat gtggttaccc 50

cttggtctcc tgtctttatg tctttctcct ctctctattc tgtcatctcc 100

ctcacttaag tctcaggcct gtcagcagct cctgtggaca ttgccatccc 150

ctctggtagc cttcagagca aacaggacaa cctatgttat ggatgtttcc 200

accaaccagg gtagtggcat ggagcaccgt aaccatctgt gcttctgtga 250  
 tctctatgac agagccactt ctccacctct gaaatgttcc ctgctctgaa 300  
 atctggcatg agatggcaca ggtgaccacg cagaagccac cagaatcttg 350  
 cctgccctat tcctcctccc aagtctgttc tcttattgtc aacctcagca 400  
 caacaggctg gcgccaatgg cattacagag aaagcaatct gtgtggctag 450  
 tgggcagatt accatgcaag ccccaggaga aatggaggag cttttagacc 500  
 acctccctgt cagccagtat taacatgtcc ccttccccct gccccgccgt 550  
 agattcagga cattcgcccc tgtgtgccac caaaccagga ctttcccctt 600  
 ggcttggcat ccctggctct ctccctggtag ccagcaagac gtctgttcca 650  
 gggcagtgtg gcatctttca agctccgtta ctatggcgat ggccatgatg 700  
 ttacaatccc acttgcctga ataatacaagt gggaagggga agcagagggga 750  
 aatggggcca tgtgaatgca gctgctctgt tctccctacc ctgaggaaaa 800  
 accaaaggga agcaacagga acttctgcaa ctggttttta tcgaaagat 850  
 catcctgcct gcagatgctg ttgaaggggc acaagaaatg tagctggaga 900  
 agattgatga aagtgcaggt gtgtaaggaa atagaacagt ctgctgggag 950  
 tcagacctgg aattctgatt ccaaactcct tattactttg ggaagtcaact 1000  
 cagcctcccc gtagccatct ccagggtgac ggaacccagt gtattacctg 1050  
 ctggaaccaa ggaaactaac aatgtaggtt actagtgaat accccaatgg 1100  
 tttctccaat tatgcccatt ccaccaaaac aataaaacaa aattctctaa 1150  
 cactgaaa 1158

<210> 274  
 <211> 86  
 <212> PRT  
 <213> Homo sapiens

<400> 274  
 Met Trp Leu Pro Leu Gly Leu Leu Ser Leu Cys Leu Ser Pro Leu  
 1 5 10 15  
 Pro Ile Leu Ser Ser Pro Ser Leu Lys Ser Gln Ala Cys Gln Gln  
 20 25 30  
 Leu Leu Trp Thr Leu Pro Ser Pro Leu Val Ala Phe Arg Ala Asn  
 35 40 45  
 Arg Thr Thr Tyr Val Met Asp Val Ser Thr Asn Gln Gly Ser Gly  
 50 55 60  
 Met Glu His Arg Asn His Leu Cys Phe Cys Asp Leu Tyr Asp Arg  
 65 70 75  
 Ala Thr Ser Pro Pro Leu Lys Cys Ser Leu Leu  
 80 85

<210> 275  
 <211> 2694  
 <212> DNA  
 <213> Homo sapiens

<400> 275  
 gtagcgcgtc ttgggtctcc cggtgccgc tgctgccgcc gcgcgctcgg 50  
 gtcgtggagc caggagcgac gtcaccgcca tggcaggcat caaagctttg 100  
 attagtttgt cctttggagg agcaatcgga ctgatgtttt tgatgcttgg 150  
 atgtgccctt ccaatataca acaaatactg gcccctcttt gttctatttt 200  
 ttacatcct ttcacctatt ccatactgca tagcaagaag attagtggat 250  
 gatacagatg ctatgagtaa cgcttgtaag gaacttgcca tttttcttac 300  
 aacgggcatt gtcgtgtcag cttttggact ccctattgta tttgccagag 350  
 cacatctgat tgagtgggga gcttgtgcac ttgttctcac aggaaacaca 400  
 gtcactctttg caactatact aggcctttttc ttggtctttg gaagcaatga 450  
 cgacttcagc tggcagcagt ggtgaaaaga aattactgaa ctattgtcaa 500  
 atggacttcc tgtcatttgt tggccattca cgcacacagg agatggggca 550  
 gttaatgctg aatggtatag caagcctctt ggggggtattt taggtgctcc 600  
 cttctcactt ttattgtaag catactattt tcacagagac ttgctgaagg 650  
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 tgcaatgtgg gaagaaatga cattgaaatt ccagtttttg aatcctgttt 1300  
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<210> 276  
<211> 131  
<212> PRT  
<213> Homo sapiens

<400> 276  
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Ile Gly Leu Met Phe Leu Met Leu Gly Cys Ala Leu Pro Ile Tyr  
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Asn Lys Tyr Trp Pro Leu Phe Val Leu Phe Phe Tyr Ile Leu Ser

Pro	Ile	Pro	Tyr	Cys	Ile	Ala	Arg	Arg	Leu	Val	Asp	Asp	Thr	Asp	35	40	45
				50					55					60			
Ala	Met	Ser	Asn	Ala	Cys	Lys	Glu	Leu	Ala	Ile	Phe	Leu	Thr	Thr	65	70	75
Gly	Ile	Val	Val	Ser	Ala	Phe	Gly	Leu	Pro	Ile	Val	Phe	Ala	Arg	80	85	90
Ala	His	Leu	Ile	Glu	Trp	Gly	Ala	Cys	Ala	Leu	Val	Leu	Thr	Gly	95	100	105
Asn	Thr	Val	Ile	Phe	Ala	Thr	Ile	Leu	Gly	Phe	Phe	Leu	Val	Phe	110	115	120
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<210> 277  
 <211> 4104  
 <212> DNA  
 <213> Homo sapiens

<400> 277  
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 caaagcatga gtgagcccgc tctctgcagc tgcccggggc gcgaatggca 250  
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 gtca 4104

<210> 278  
 <211> 522  
 <212> PRT  
 <213> Homo sapiens

<400> 278

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Arg	Pro	Ser	Gly	Val	Val	Leu	Cys	Leu	Leu	Gly	Ala	Cys	Phe	Gln	20	25	30	
Met	Leu	Pro	Ala	Ala	Pro	Ser	Gly	Cys	Pro	Gln	Leu	Cys	Arg	Cys	35	40	45	
Glu	Gly	Arg	Leu	Leu	Tyr	Cys	Glu	Ala	Leu	Asn	Leu	Thr	Glu	Ala	50	55	60	
Pro	His	Asn	Leu	Ser	Gly	Leu	Leu	Gly	Leu	Ser	Leu	Arg	Tyr	Asn	65	70	75	
Ser	Leu	Ser	Glu	Leu	Arg	Ala	Gly	Gln	Phe	Thr	Gly	Leu	Met	Gln	80	85	90	
Leu	Thr	Trp	Leu	Tyr	Leu	Asp	His	Asn	His	Ile	Cys	Ser	Val	Gln	95	100	105	
Gly	Asp	Ala	Phe	Gln	Lys	Leu	Arg	Arg	Val	Lys	Glu	Leu	Thr	Leu	110	115	120	
Ser	Ser	Asn	Gln	Ile	Thr	Gln	Leu	Pro	Asn	Thr	Thr	Phe	Arg	Pro	125	130	135	
Met	Pro	Asn	Leu	Arg	Ser	Val	Asp	Leu	Ser	Tyr	Asn	Lys	Leu	Gln	140	145	150	
Ala	Leu	Ala	Pro	Asp	Leu	Phe	His	Gly	Leu	Arg	Lys	Leu	Thr	Thr	155	160	165	
Leu	His	Met	Arg	Ala	Asn	Ala	Ile	Gln	Phe	Val	Pro	Val	Arg	Ile	170	175	180	
Phe	Gln	Asp	Cys	Arg	Ser	Leu	Lys	Phe	Leu	Asp	Ile	Gly	Tyr	Asn	185	190	195	
Gln	Leu	Lys	Ser	Leu	Ala	Arg	Asn	Ser	Phe	Ala	Gly	Leu	Phe	Lys	200	205	210	
Leu	Thr	Glu	Leu	His	Leu	Glu	His	Asn	Asp	Leu	Val	Lys	Val	Asn	215	220	225	
Phe	Ala	His	Phe	Pro	Arg	Leu	Ile	Ser	Leu	His	Ser	Leu	Cys	Leu	230	235	240	
Arg	Arg	Asn	Lys	Val	Ala	Ile	Val	Val	Ser	Ser	Leu	Asp	Trp	Val	245	250	255	
Trp	Asn	Leu	Glu	Lys	Met	Asp	Leu	Ser	Gly	Asn	Glu	Ile	Glu	Tyr	260	265	270	
Met	Glu	Pro	His	Val	Phe	Glu	Thr	Val	Pro	His	Leu	Gln	Ser	Leu	275	280	285	

Gln	Leu	Asp	Ser	Asn	Arg	Leu	Thr	Tyr	Ile	Glu	Pro	Arg	Ile	Leu	
				290					295					300	
Asn	Ser	Trp	Lys	Ser	Leu	Thr	Ser	Ile	Thr	Leu	Ala	Gly	Asn	Leu	
				305					310					315	
Trp	Asp	Cys	Gly	Arg	Asn	Val	Cys	Ala	Leu	Ala	Ser	Trp	Leu	Ser	
				320					325					330	
Asn	Phe	Gln	Gly	Arg	Tyr	Asp	Gly	Asn	Leu	Gln	Cys	Ala	Ser	Pro	
				335					340					345	
Glu	Tyr	Ala	Gln	Gly	Glu	Asp	Val	Leu	Asp	Ala	Val	Tyr	Ala	Phe	
				350					355					360	
His	Leu	Cys	Glu	Asp	Gly	Ala	Glu	Pro	Thr	Ser	Gly	His	Leu	Leu	
				365					370					375	
Ser	Ala	Val	Thr	Asn	Arg	Ser	Asp	Leu	Gly	Pro	Pro	Ala	Ser	Ser	
				380					385					390	
Ala	Thr	Thr	Leu	Ala	Asp	Gly	Gly	Glu	Gly	Gln	His	Asp	Gly	Thr	
				395					400					405	
Phe	Glu	Pro	Ala	Thr	Val	Ala	Leu	Pro	Gly	Gly	Glu	His	Ala	Glu	
				410					415					420	
Asn	Ala	Val	Gln	Ile	His	Lys	Val	Val	Thr	Gly	Thr	Met	Ala	Leu	
				425					430					435	
Ile	Phe	Ser	Phe	Leu	Ile	Val	Val	Leu	Val	Leu	Tyr	Val	Ser	Trp	
				440					445					450	
Lys	Cys	Phe	Pro	Ala	Ser	Leu	Arg	Gln	Leu	Arg	Gln	Cys	Phe	Val	
				455					460					465	
Thr	Gln	Arg	Arg	Lys	Gln	Lys	Gln	Lys	Gln	Thr	Met	His	Gln	Met	
				470					475					480	
Ala	Ala	Met	Ser	Ala	Gln	Glu	Tyr	Tyr	Val	Asp	Tyr	Lys	Pro	Asn	
				485					490					495	
His	Ile	Glu	Gly	Ala	Leu	Val	Ile	Ile	Asn	Glu	Tyr	Gly	Ser	Cys	
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Thr	Cys	His	Gln	Gln	Pro	Ala	Arg	Glu	Cys	Glu	Val				
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<210> 279

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 279

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<210> 280

<211> 709

<212> DNA

<213> Homo sapiens

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<210> 281  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 281  
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 Asp Val Ala Ala Asn Trp Ser Gln Asn Arg Thr Pro Cys Ala Gly  
 35 40 45  
 Gly Ala Val Glu Phe Pro Ala Asp Lys Met Val Ser Val Leu Val  
 50 55 60  
 Gln Glu Gly His Ala Val Ser Asp Met Leu Leu Pro Leu Asp Gly  
 65 70 75  
 Glu Leu Val Leu Ala Ser Gly Ala Gly Phe Gly Val Ser Asp Val  
 80 85 90  
 Gly Ser His Leu Asp Cys Gly Ala Gly Glu Pro Ala Val Phe Arg  
 95 100 105  
 Asp Ser Asp Arg Phe Ser Trp His Asp Pro His Leu Trp Arg Ser  
 110 115 120  
 Gly Asp Glu Ala Pro Gly Leu Phe Phe Val Asp Ala Glu Arg Val  
 125 130 135

Pro	Cys	Arg	His	Asp	Asp	Val	Phe	Phe	Pro	Pro	Ser	Ala	Ser	Phe
				140					145					150
Arg	Val	Gly	Leu	Gly	Pro	Gly	Ala	Ser	Pro	Val	Arg	Val	Arg	Ser
				155					160					165
Ile	Ser	Ala	Leu	Gly	Arg	Thr	Phe	Thr	Arg	Asp	Glu	Asp	Leu	Ala
				170					175					180
Val	Phe	Leu	Ala	Ser	Arg	Ala	Gly	Arg	Leu	Arg	Phe	His	Gly	Pro
				185					190					195
Gly	Ala	Leu	Ser	Val	Gly	Pro	Glu	Asp	Cys	Ala	Asp	Pro	Ser	Gly
				200					205					210
Cys	Val	Cys	Gly	Asn	Ala	Glu	Ala	Gln	Pro	Trp	Ile	Cys	Ala	Ala
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Leu	Leu	Gln	Pro											

<210> 282  
 <211> 644  
 <212> DNA  
 <213> Homo sapiens

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 cagtagcaca ggatgagaag tgggttctgt atcttgtgga gtggaatctt 500  
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 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 644

<210> 283  
 <211> 77  
 <212> PRT  
 <213> Homo sapiens

<400> 283  
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gataatgtat atatttagca actttgcact atgtaaagta ctttatatat 2000  
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catgtcacag aatacttggt acgcattggt caaactgaag gaaatttcta 2150  
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aagaagggtga taagtgttga aaattaaatg tgataacctt tgaaccttga 2250  
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tcttatttct ttcagagaa cgtgggtttc atttattttt ccctcaaaag 2350  
agagtcaaact actgacagat tcgttctaaa tatattgttt ctgtcataaa 2400  
attattgtga tttcctgatg agtcatatta ctgtgatttt cataataatg 2450  
aagacaccat gaatatactt ttcttctata tagttcagca atggcctgaa 2500  
tagaagcaac caggcaccat ctacagcaatg ttttctcttg tttgtaatta 2550  
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ggataaaaaa aaaaaaaaaa aaa 2623

<210> 285

<211> 477  
 <212> PRT  
 <213> Homo sapiens

<400> 285

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				20					25					30	
Leu	Leu	Val	Ser	Phe	Asp	Gly	Phe	Arg	Trp	Asp	Tyr	Leu	Tyr	Lys	
				35					40					45	
Val	Pro	Thr	Pro	His	Phe	His	Tyr	Ile	Met	Lys	Tyr	Gly	Val	His	
				50					55					60	
Val	Lys	Gln	Val	Thr	Asn	Val	Phe	Ile	Thr	Lys	Thr	Tyr	Pro	Asn	
				65					70					75	
His	Tyr	Thr	Leu	Val	Thr	Gly	Leu	Phe	Ala	Glu	Asn	His	Gly	Ile	
				80					85					90	
Val	Ala	Asn	Asp	Met	Phe	Asp	Pro	Ile	Arg	Asn	Lys	Ser	Phe	Ser	
				95					100					105	
Leu	Asp	His	Met	Asn	Ile	Tyr	Asp	Ser	Lys	Phe	Trp	Glu	Glu	Ala	
				110					115					120	
Thr	Pro	Ile	Trp	Ile	Thr	Asn	Gln	Arg	Ala	Gly	His	Thr	Ser	Gly	
				125					130					135	
Ala	Ala	Met	Trp	Pro	Gly	Thr	Asp	Val	Lys	Ile	His	Lys	Arg	Phe	
				140					145					150	
Pro	Thr	His	Tyr	Met	Pro	Tyr	Asn	Glu	Ser	Val	Ser	Phe	Glu	Asp	
				155					160					165	
Arg	Val	Ala	Lys	Ile	Val	Glu	Trp	Phe	Thr	Ser	Lys	Glu	Pro	Ile	
				170					175					180	
Asn	Leu	Gly	Leu	Leu	Tyr	Trp	Glu	Asp	Pro	Asp	Asp	Met	Gly	His	
				185					190					195	
His	Leu	Gly	Pro	Asp	Ser	Pro	Leu	Met	Gly	Pro	Val	Ile	Ser	Asp	
				200					205					210	
Ile	Asp	Lys	Lys	Leu	Gly	Tyr	Leu	Ile	Gln	Met	Leu	Lys	Lys	Ala	
				215					220					225	
Lys	Leu	Trp	Asn	Thr	Leu	Asn	Leu	Ile	Ile	Thr	Ser	Asp	His	Gly	
				230					235					240	
Met	Thr	Gln	Cys	Ser	Glu	Glu	Arg	Leu	Ile	Glu	Leu	Asp	Gln	Tyr	
				245					250					255	
Leu	Asp	Lys	Asp	His	Tyr	Thr	Leu	Ile	Asp	Gln	Ser	Pro	Val	Ala	
				260					265					270	
Ala	Ile	Leu	Pro	Lys	Glu	Gly	Lys	Phe	Asp	Glu	Val	Tyr	Glu	Ala	
				275					280					285	
Leu	Thr	His	Ala	His	Pro	Asn	Leu	Thr	Val	Tyr	Lys	Lys	Glu	Asp	



	290		295		300
Val Pro Glu Arg	Trp His Tyr Lys Tyr	Asn Ser Arg Ile Gln Pro			
	305	310			315
Ile Ile Ala Val	Ala Asp Glu Gly Trp	His Ile Leu Gln Asn Lys			
	320	325			330
Ser Asp Asp Phe	Leu Leu Gly Asn His	Gly Tyr Asp Asn Ala Leu			
	335	340			345
Ala Asp Met His	Pro Ile Phe Leu Ala	His Gly Pro Ala Phe Arg			
	350	355			360
Lys Asn Phe Ser	Lys Glu Ala Met Asn	Ser Thr Asp Leu Tyr Pro			
	365	370			375
Leu Leu Cys His	Leu Leu Asn Ile Thr	Ala Met Pro His Asn Gly			
	380	385			390
Ser Phe Trp Asn	Val Gln Asp Leu Leu	Asn Ser Ala Met Pro Arg			
	395	400			405
Val Val Pro Tyr	Thr Gln Ser Thr Ile	Leu Leu Pro Gly Ser Val			
	410	415			420
Lys Pro Ala Glu	Tyr Asp Gln Glu Gly	Ser Tyr Pro Tyr Phe Ile			
	425	430			435
Gly Val Ser Leu	Gly Ser Ile Ile Val	Ile Val Phe Phe Val Ile			
	440	445			450
Phe Ile Lys His	Leu Ile His Ser Gln	Ile Pro Ala Leu Gln Asp			
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Met His Ala Glu	Ile Ala Gln Pro Leu	Leu Gln Ala			
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 <211> 1337  
 <212> DNA  
 <213> Homo sapiens

<400> 286  
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 ggtggctccc gctgagagga tgagcaagtt ctttaaggcac ttcacggtcg 300  
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 gaagaggagg aggaggagga ggagcagcca ccacccacac cagtctcagg 400  
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 caccagggc cccccttgac ttcaggggca tgttgaggaa actgttcagc 500



Ile	Leu	Asp	Leu	Lys	Ile	Ile	Gln	Pro	Asp	Lys	Asn	Asn	Tyr	Ala	
				125					130					135	
Ala	Met	Val	Phe	His	Tyr	Met	Ser	Ile	Thr	Ile	Leu	Val	Phe	Phe	
				140					145					150	
Met	Met	Glu	Ile	Ile	Phe	Lys	Leu	Phe	Val	Phe	Arg	Leu	Ser	Ser	
				155					160					165	
Phe	Thr	Thr	Ser	Leu	Arg	Ser	Trp	Met	Pro	Val	Val	Val	Val	Val	
				170					175					180	
Ser	Phe	Ile	Leu	Asp	Ile	Val	Leu	Leu	Phe	Gln	Glu	His	Gln	Phe	
				185					190					195	
Glu	Ala	Leu	Gly	Leu	Leu	Ile	Leu	Leu	Arg	Leu	Trp	Arg	Val	Ala	
				200					205					210	
Arg	Ile	Ile	Asn	Gly	Ile	Ile	Ile	Ser	Val	Lys	Thr	Arg	Ser	Glu	
				215					220					225	
Arg	Gln	Leu	Leu	Arg	Leu	Lys	Gln	Met	Asn	Val	Gln	Leu	Ala	Ala	
				230					235					240	
Lys	Ile	Gln	His	Leu	Glu	Phe	Ser	Cys	Ser	Glu	Lys	Pro	Leu	Asp	
				245					250					255	

<210> 288  
 <211> 3334  
 <212> DNA  
 <213> Homo sapiens

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 aagtccattt tcaagctcag tgtcttcac cctcccagg aattctccac 200  
 ctaccgccag tggaagcaga aaattgtaca agctggagat aaggaccttg 250  
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 aagaagctga ggctggtggt taagattttg gacaaaaaga atgatggacg 350  
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 cgtggaaaac atocccgaga tcctcctcta ctggaagcat tccacgatct 550  
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gccagtactc aggaatgctg gactgcgcca ggaggatcct ggccagagag 1050  
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 aatgcaaaaa ttgttatata tgaacatata actggagtcg tcaaaaagca 3200  
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<210> 289  
 <211> 469  
 <212> PRT  
 <213> Homo sapiens

<400> 289  
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 Lys Ser Ile Phe Lys Leu Ser Val Phe Ile Pro Ser Gln Glu Phe  
 35 40 45  
 Ser Thr Tyr Arg Gln Trp Lys Gln Lys Ile Val Gln Ala Gly Asp  
 50 55 60  
 Lys Asp Leu Asp Gly Gln Leu Asp Phe Glu Glu Phe Val His Tyr  
 65 70 75  
 Leu Gln Asp His Glu Lys Lys Leu Arg Leu Val Phe Lys Ile Leu  
 80 85 90

Asp	Lys	Lys	Asn	Asp	Gly	Arg	Ile	Asp	Ala	Gln	Glu	Ile	Met	Gln	95	100	105
Ser	Leu	Arg	Asp	Leu	Gly	Val	Lys	Ile	Ser	Glu	Gln	Gln	Ala	Glu	110	115	120
Lys	Ile	Leu	Lys	Ser	Met	Asp	Lys	Asn	Gly	Thr	Met	Thr	Ile	Asp	125	130	135
Trp	Asn	Glu	Trp	Arg	Asp	Tyr	His	Leu	Leu	His	Pro	Val	Glu	Asn	140	145	150
Ile	Pro	Glu	Ile	Ile	Leu	Tyr	Trp	Lys	His	Ser	Thr	Ile	Phe	Asp	155	160	165
Val	Gly	Glu	Asn	Leu	Thr	Val	Pro	Asp	Glu	Phe	Thr	Val	Glu	Glu	170	175	180
Arg	Gln	Thr	Gly	Met	Trp	Trp	Arg	His	Leu	Val	Ala	Gly	Gly	Gly	185	190	195
Ala	Gly	Ala	Val	Ser	Arg	Thr	Cys	Thr	Ala	Pro	Leu	Asp	Arg	Leu	200	205	210
Lys	Val	Leu	Met	Gln	Val	His	Ala	Ser	Arg	Ser	Asn	Asn	Met	Gly	215	220	225
Ile	Val	Gly	Gly	Phe	Thr	Gln	Met	Ile	Arg	Glu	Gly	Gly	Ala	Arg	230	235	240
Ser	Leu	Trp	Arg	Gly	Asn	Gly	Ile	Asn	Val	Leu	Lys	Ile	Ala	Pro	245	250	255
Glu	Ser	Ala	Ile	Lys	Phe	Met	Ala	Tyr	Glu	Gln	Ile	Lys	Arg	Leu	260	265	270
Val	Gly	Ser	Asp	Gln	Glu	Thr	Leu	Arg	Ile	His	Glu	Arg	Leu	Val	275	280	285
Ala	Gly	Ser	Leu	Ala	Gly	Ala	Ile	Ala	Gln	Ser	Ser	Ile	Tyr	Pro	290	295	300
Met	Glu	Val	Leu	Lys	Thr	Arg	Met	Ala	Leu	Arg	Lys	Thr	Gly	Gln	305	310	315
Tyr	Ser	Gly	Met	Leu	Asp	Cys	Ala	Arg	Arg	Ile	Leu	Ala	Arg	Glu	320	325	330
Gly	Val	Ala	Ala	Phe	Tyr	Lys	Gly	Tyr	Val	Pro	Asn	Met	Leu	Gly	335	340	345
Ile	Ile	Pro	Tyr	Ala	Gly	Ile	Asp	Leu	Ala	Val	Tyr	Glu	Thr	Leu	350	355	360
Lys	Asn	Ala	Trp	Leu	Gln	His	Tyr	Ala	Val	Asn	Ser	Ala	Asp	Pro	365	370	375
Gly	Val	Phe	Val	Leu	Leu	Ala	Cys	Gly	Thr	Met	Ser	Ser	Thr	Cys	380	385	390
Gly	Gln	Leu	Ala	Ser	Tyr	Pro	Leu	Ala	Leu	Val	Arg	Thr	Arg	Met	395	400	405

Gln Ala Gln Ala Ser Ile Glu Gly Ala Pro Glu Val Thr Met Ser  
410 415 420

Ser Leu Phe Lys His Ile Leu Arg Thr Glu Gly Ala Phe Gly Leu  
425 430 435

Tyr Arg Gly Leu Ala Pro Asn Phe Met Lys Val Ile Pro Ala Val  
440 445 450

Ser Ile Ser Tyr Val Val Tyr Glu Asn Leu Lys Ile Thr Leu Gly  
455 460 465

Val Gln Ser Arg

<210> 290  
<211> 1658  
<212> DNA  
<213> Homo sapiens

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<210> 291  
 <211> 282  
 <212> PRT  
 <213> Homo sapiens

<400> 291  
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 Ile Ser Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser Ala  
 35 40 45  
 Gly Asn Ile Gly Glu Asp Gly Ile Leu Ser Cys Thr Phe Glu Pro  
 50 55 60  
 Asp Ile Lys Leu Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly  
 65 70 75  
 Val Leu Gly Leu Val His Glu Phe Lys Glu Gly Lys Asp Glu Leu  
 80 85 90  
 Ser Glu Gln Asp Glu Met Phe Arg Gly Arg Thr Ala Val Phe Ala  
 95 100 105  
 Asp Gln Val Ile Val Gly Asn Ala Ser Leu Arg Leu Lys Asn Val  
 110 115 120  
 Gln Leu Thr Asp Ala Gly Thr Tyr Lys Cys Tyr Ile Ile Thr Ser  
 125 130 135  
 Lys Gly Lys Gly Asn Ala Asn Leu Glu Tyr Lys Thr Gly Ala Phe  
 140 145 150  
 Ser Met Pro Glu Val Asn Val Asp Tyr Asn Ala Ser Ser Glu Thr



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Leu Arg Cys Glu	Ala Pro Arg Trp Phe	Pro Gln Pro Thr Val	Val		
	170	175	180		
Trp Ala Ser Gln	Val Asp Gln Gly Ala	Asn Phe Ser Glu Val	Ser		
	185	190	195		
Asn Thr Ser Phe	Glu Leu Asn Ser Glu	Asn Val Thr Met Lys	Val		
	200	205	210		
Val Ser Val Leu	Tyr Asn Val Thr Ile	Asn Asn Thr Tyr Ser	Cys		
	215	220	225		
Met Ile Glu Asn	Asp Ile Ala Lys Ala	Thr Gly Asp Ile Lys	Val		
	230	235	240		
Thr Glu Ser Glu	Ile Lys Arg Arg Ser	His Leu Gln Leu Leu	Asn		
	245	250	255		
Ser Lys Ala Ser	Leu Cys Val Ser Ser	Phe Phe Ala Ile Ser	Trp		
	260	265	270		
Ala Leu Leu Pro	Leu Ser Pro Tyr Leu	Met Leu Lys			
	275	280			

<210> 292  
 <211> 1484  
 <212> DNA  
 <213> Homo sapiens

<400> 292  
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 aaaacgtaag ttagactact gcgagtgcgg gacgcagctc tgtggatctc 400  
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 aatttcactc tgcatacaaa gctcagttag taagaccagc gggcaacagt 750  
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 aacctttctg cccagcagc tctcttctg ctaacatctc aggctcccag 1050  
 cccagccacc attactgtgg cctgatctgg actatcatgg tggcaggttc 1100  
 catggactgc agaactccag ctgcatggaa agggccagct gcagactttg 1150  
 agccagaaat gcaaacggga ggcctctggg actcagtcag agcgctttgg 1200  
 ctgaatgagg ggtggaaccg agggaagaag gtgcgtcgga gtggcagatg 1250  
 caggaaatga gctgtctatt agccttgcc tgcacacca tgaggtaggc 1300  
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<210> 293  
 <211> 180  
 <212> PRT  
 <213> Homo sapiens

<400> 293  
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 Ala Leu Trp Gly Gly Thr Gln Pro Leu Leu Lys Arg Ala Ser Ala  
 20 25 30  
 Gly Leu Gln Arg Val His Glu Pro Thr Trp Ala Gln Gln Leu Leu  
 35 40 45  
 Gln Glu Met Lys Thr Leu Phe Leu Asn Thr Glu Tyr Leu Met Pro  
 50 55 60  
 Phe Leu Leu Asn Gln Cys Gly Ser Leu Leu Tyr Tyr Leu Thr Leu  
 65 70 75  
 Ala Ser Thr Asp Leu Thr Leu Ala Val Pro Ile Cys Asn Ser Leu  
 80 85 90  
 Ala Ile Ile Phe Thr Leu Ile Val Gly Lys Ala Leu Gly Glu Asp  
 95 100 105  
 Ile Gly Gly Lys Arg Lys Leu Asp Tyr Cys Glu Cys Gly Thr Gln  
 110 115 120  
 Leu Cys Gly Ser Arg His Thr Cys Val Ser Ser Phe Pro Glu Pro  
 125 130 135  
 Ile Ser Pro Glu Trp Val Arg Thr Arg Pro Phe Pro Ile Leu Pro  
 140 145 150

Phe	Pro	Leu	Gln	Leu	Phe	Cys	Phe	Leu	Val	Ala	Ile	Arg	Val	Pro
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Phe	Pro	Trp	Thr	Val	Trp	Arg	Lys	Thr	Glu	Ala	Gly	Val	Trp	Asp
				170					175					180

<210> 294  
 <211> 1164  
 <212> DNA  
 <213> Homo sapiens

<400> 294  
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 cggcctaaga tgccacttct tctcatgtcc caggcttgag gccctgtggt 200  
 ccccatcctt gggagaagtc agtccagca ccatgaaggg catcctcggt 250  
 gctggtatca ctgcagtgtc tgttgacgtc gtagaatctc tgagctgcgt 300  
 gcagtgtaat tcatgggaaa aatcctgtgt caacagcatt gcctctgaat 350  
 gtccctcaca tgccaacacc agctgtatca gtcctcagc cagctcctct 400  
 ctagagacac cagtcagatt ataccagaat atgttctgct cagcggagaa 450  
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 aagaacactt tcattttgta agccagtgtc gccaaaggaaa ggaatgcagc 550  
 aacaccagcg atgccctgga cctcccccctg aagaacgtgt ccagcaacgc 600  
 agagtgcctt gcttggtatg aatctaattg aacttcctgt cgtgggaagc 650  
 cctggaaatg ctatgaagaa gaacagtgtg tctttctagt tgcagaactt 700  
 aagaatgaca ttgagtctaa gagtctcgtg ctgaaaggct gttccaacgt 750  
 cagtaacgcc acctgtcagt tcctgtctgg tgaaaacaag actcttggag 800  
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 ctgccagta agtgggagtc acaggtctcc aggcaatgcc gacagctgcc 1100  
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 aaaaaaaaaa aaaa 1164

<210> 295  
 <211> 237  
 <212> PRT

<213> Homo sapiens

<400> 295

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Ala Val Glu Ser Leu Ser Cys Val Gln Cys Asn Ser Trp Glu Lys  
20 25 30  
Ser Cys Val Asn Ser Ile Ala Ser Glu Cys Pro Ser His Ala Asn  
35 40 45  
Thr Ser Cys Ile Ser Ser Ser Ala Ser Ser Ser Leu Glu Thr Pro  
50 55 60  
Val Arg Leu Tyr Gln Asn Met Phe Cys Ser Ala Glu Asn Cys Ser  
65 70 75  
Glu Glu Thr His Ile Thr Ala Phe Thr Val His Val Ser Ala Glu  
80 85 90  
Glu His Phe His Phe Val Ser Gln Cys Cys Gln Gly Lys Glu Cys  
95 100 105  
Ser Asn Thr Ser Asp Ala Leu Asp Pro Pro Leu Lys Asn Val Ser  
110 115 120  
Ser Asn Ala Glu Cys Pro Ala Cys Tyr Glu Ser Asn Gly Thr Ser  
125 130 135  
Cys Arg Gly Lys Pro Trp Lys Cys Tyr Glu Glu Glu Gln Cys Val  
140 145 150  
Phe Leu Val Ala Glu Leu Lys Asn Asp Ile Glu Ser Lys Ser Leu  
155 160 165  
Val Leu Lys Gly Cys Ser Asn Val Ser Asn Ala Thr Cys Gln Phe  
170 175 180  
Leu Ser Gly Glu Asn Lys Thr Leu Gly Gly Val Ile Phe Arg Lys  
185 190 195  
Phe Glu Cys Ala Asn Val Asn Ser Leu Thr Pro Thr Ser Ala Pro  
200 205 210  
Thr Thr Ser His Asn Val Gly Ser Lys Ala Ser Leu Tyr Leu Leu  
215 220 225  
Ala Leu Ala Ser Leu Leu Leu Arg Gly Leu Leu Pro  
230 235

<210> 296

<211> 1245

<212> DNA

<213> Homo sapiens

<400> 296

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ccagcccat ggtccccgcc gccggcgcgc tgctgtgggt cctgctgctg 150

aatctgggtc cccgggcggc gggggcccaa ggctgaccc agactccgac 200  
 cgaaatgcag cgggtcagtt tacgctttgg gggcccatg acccgagct 250  
 accggagcac cgcccgact ggtttcccc ggaagacaag gataatccta 300  
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 ggctgccgag ctcttgccg ccacgggtgc caccggcttt agccggtcgt 400  
 ccgccattaa cgaggaggat gggctttcag aagaggggggt tgtgattaat 450  
 gccggaaagg atagcaccag cagagagctt ccagtgcca ctccaatac 500  
 agcggggagt tccagcacga ggtttatagc caatagtcag gagcctgaaa 550  
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<210> 297  
 <211> 341  
 <212> PRT  
 <213> Homo sapiens

<400> 297  
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 Leu Gly Pro Arg Ala Ala Gly Ala Gln Gly Leu Thr Gln Thr Pro  
 20 25 30  
 Thr Glu Met Gln Arg Val Ser Leu Arg Phe Gly Gly Pro Met Thr  
 35 40 45  
 Arg Ser Tyr Arg Ser Thr Ala Arg Thr Gly Leu Pro Arg Lys Thr  
 50 55 60  
 Arg Ile Ile Leu Glu Asp Glu Asn Asp Ala Met Ala Asp Ala Asp

65					70					75				
Arg	Leu	Ala	Gly	Pro	Ala	Ala	Ala	Glu	Leu	Leu	Ala	Ala	Thr	Val
				80					85					90
Ser	Thr	Gly	Phe	Ser	Arg	Ser	Ser	Ala	Ile	Asn	Glu	Glu	Asp	Gly
				95					100					105
Ser	Ser	Glu	Glu	Gly	Val	Val	Ile	Asn	Ala	Gly	Lys	Asp	Ser	Thr
				110					115					120
Ser	Arg	Glu	Leu	Pro	Ser	Ala	Thr	Pro	Asn	Thr	Ala	Gly	Ser	Ser
				125					130					135
Ser	Thr	Arg	Phe	Ile	Ala	Asn	Ser	Gln	Glu	Pro	Glu	Ile	Arg	Leu
				140					145					150
Thr	Ser	Ser	Leu	Pro	Arg	Ser	Pro	Gly	Arg	Ser	Thr	Glu	Asp	Leu
				155					160					165
Pro	Gly	Ser	Gln	Ala	Thr	Leu	Ser	Gln	Trp	Ser	Thr	Pro	Gly	Ser
				170					175					180
Thr	Pro	Ser	Arg	Trp	Pro	Ser	Pro	Ser	Pro	Thr	Ala	Met	Pro	Ser
				185					190					195
Pro	Glu	Asp	Leu	Arg	Leu	Val	Leu	Met	Pro	Trp	Gly	Pro	Trp	His
				200					205					210
Cys	His	Cys	Lys	Ser	Gly	Thr	Met	Ser	Arg	Ser	Arg	Ser	Gly	Lys
				215					220					225
Leu	His	Gly	Leu	Ser	Gly	Arg	Leu	Arg	Val	Gly	Ala	Leu	Ser	Gln
				230					235					240
Leu	Arg	Thr	Glu	His	Lys	Pro	Cys	Thr	Tyr	Gln	Gln	Cys	Pro	Cys
				245					250					255
Asn	Arg	Leu	Arg	Glu	Glu	Cys	Pro	Leu	Asp	Thr	Ser	Leu	Cys	Thr
				260					265					270
Asp	Thr	Asn	Cys	Ala	Ser	Gln	Ser	Thr	Thr	Ser	Thr	Arg	Thr	Thr
				275					280					285
Thr	Thr	Pro	Phe	Pro	Thr	Ile	His	Leu	Arg	Ser	Ser	Pro	Ser	Leu
				290					295					300
Pro	Pro	Ala	Ser	Pro	Cys	Pro	Ala	Leu	Ala	Phe	Trp	Lys	Arg	Val
				305					310					315
Arg	Ile	Gly	Leu	Glu	Asp	Ile	Trp	Asn	Ser	Leu	Ser	Ser	Val	Phe
				320					325					330
Thr	Glu	Met	Gln	Pro	Ile	Asp	Arg	Asn	Gln	Arg				
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<210> 298

<211> 2692

<212> DNA

<213> Homo sapiens

<400> 298

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 cgaccgtgag ccggtgtacc gcgactgcgt actgcagtgc gaagagcaga 150  
 actgctctgg gggcgctctg aatcacttcc gctcccgccca gccaatctac 200  
 atgagtctag caggctggac ctgtcgggac gactgtaagt atgagtgtat 250  
 gtgggtcacc gttgggctct acctccagga aggtcacaaa gtgcctcagt 300  
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<210> 299

<211> 320

<212> PRT

<213> Homo sapiens

<400> 299

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				20					25					30
Asp	Cys	Val	Leu	Gln	Cys	Glu	Glu	Gln	Asn	Cys	Ser	Gly	Gly	Ala
				35					40					45
Leu	Asn	His	Phe	Arg	Ser	Arg	Gln	Pro	Ile	Tyr	Met	Ser	Leu	Ala
				50					55					60
Gly	Trp	Thr	Cys	Arg	Asp	Asp	Cys	Lys	Tyr	Glu	Cys	Met	Trp	Val
				65					70					75



Thr	Val	Gly	Leu	Tyr	Leu	Gln	Glu	Gly	His	Lys	Val	Pro	Gln	Phe	
				80					85					90	
His	Gly	Lys	Trp	Pro	Phe	Ser	Arg	Phe	Leu	Phe	Phe	Gln	Glu	Pro	
				95					100					105	
Ala	Ser	Ala	Val	Ala	Ser	Phe	Leu	Asn	Gly	Leu	Ala	Ser	Leu	Val	
				110					115					120	
Met	Leu	Cys	Arg	Tyr	Arg	Thr	Phe	Val	Pro	Ala	Ser	Ser	Pro	Met	
				125					130					135	
Tyr	His	Thr	Cys	Val	Ala	Phe	Ala	Trp	Val	Ser	Leu	Asn	Ala	Trp	
				140					145					150	
Phe	Trp	Ser	Thr	Val	Phe	His	Thr	Arg	Asp	Thr	Asp	Leu	Thr	Glu	
				155					160					165	
Lys	Met	Asp	Tyr	Phe	Cys	Ala	Ser	Thr	Val	Ile	Leu	His	Ser	Ile	
				170					175					180	
Tyr	Leu	Cys	Cys	Val	Arg	Thr	Val	Gly	Leu	Gln	His	Pro	Ala	Val	
				185					190					195	
Val	Ser	Ala	Phe	Arg	Ala	Leu	Leu	Leu	Leu	Met	Leu	Thr	Val	His	
				200					205					210	
Val	Ser	Tyr	Leu	Ser	Leu	Ile	Arg	Phe	Asp	Tyr	Gly	Tyr	Asn	Leu	
				215					220					225	
Val	Ala	Asn	Val	Ala	Ile	Gly	Leu	Val	Asn	Val	Val	Trp	Trp	Leu	
				230					235					240	
Ala	Trp	Cys	Leu	Trp	Asn	Gln	Arg	Arg	Leu	Pro	His	Val	Arg	Lys	
				245					250					255	
Cys	Val	Val	Val	Val	Leu	Leu	Leu	Gln	Gly	Leu	Ser	Leu	Leu	Glu	
				260					265					270	
Leu	Leu	Asp	Phe	Pro	Pro	Leu	Phe	Trp	Val	Leu	Asp	Ala	His	Ala	
				275					280					285	
Ile	Trp	His	Ile	Ser	Thr	Ile	Pro	Val	His	Val	Leu	Phe	Phe	Ser	
				290					295					300	
Phe	Leu	Glu	Asp	Asp	Ser	Leu	Tyr	Leu	Leu	Lys	Glu	Ser	Glu	Asp	
				305					310					315	
Lys	Phe	Lys	Leu	Asp											
				320											

<210> 300  
 <211> 1674  
 <212> DNA  
 <213> Homo sapiens

<400> 300  
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 cctctgggca tgctgcttgg gctgctgatg gccgcctgct tcaccttctg 150

cctcagtcac cagaacctga aggagtttgc cctgaccaac ccagagaaga 200  
gcagcaccaa agaaacggag agaaaagaaa ccaaagccga ggaggagctg 250  
gatgccgaag tcctggaggt gttccacccg acgcatgagt ggcaggccct 300  
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gctccagttt ggaagagaag attgctgcgc tctttgatct tgaatattat 700  
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cgtcaggacc ccagctcgg caggacactg gccagcctgc aggtgagta 1350  
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1650  
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<210> 301

<211> 461  
 <212> PRT  
 <213> Homo sapiens

<400> 301

Met	Ala	Pro	Gln	Ser	Leu	Pro	Ser	Ser	Arg	Met	Ala	Pro	Leu	Gly	1	5	10	15
Met	Leu	Leu	Gly	Leu	Leu	Met	Ala	Ala	Cys	Phe	Thr	Phe	Cys	Leu	20	25	30	
Ser	His	Gln	Asn	Leu	Lys	Glu	Phe	Ala	Leu	Thr	Asn	Pro	Glu	Lys	35	40	45	
Ser	Ser	Thr	Lys	Glu	Thr	Glu	Arg	Lys	Glu	Thr	Lys	Ala	Glu	Glu	50	55	60	
Glu	Leu	Asp	Ala	Glu	Val	Leu	Glu	Val	Phe	His	Pro	Thr	His	Glu	65	70	75	
Trp	Gln	Ala	Leu	Gln	Pro	Gly	Gln	Ala	Val	Pro	Ala	Gly	Ser	His	80	85	90	
Val	Arg	Leu	Asn	Leu	Gln	Thr	Gly	Glu	Arg	Glu	Ala	Lys	Leu	Gln	95	100	105	
Tyr	Glu	Asp	Lys	Phe	Arg	Asn	Asn	Leu	Lys	Gly	Lys	Arg	Leu	Asp	110	115	120	
Ile	Asn	Thr	Asn	Thr	Tyr	Thr	Ser	Gln	Asp	Leu	Lys	Ser	Ala	Leu	125	130	135	
Ala	Lys	Phe	Lys	Glu	Gly	Ala	Glu	Met	Glu	Ser	Ser	Lys	Glu	Asp	140	145	150	
Lys	Ala	Arg	Gln	Ala	Glu	Val	Lys	Arg	Leu	Phe	Arg	Pro	Ile	Glu	155	160	165	
Glu	Leu	Lys	Lys	Asp	Phe	Asp	Glu	Leu	Asn	Val	Val	Ile	Glu	Thr	170	175	180	
Asp	Met	Gln	Ile	Met	Val	Arg	Leu	Ile	Asn	Lys	Phe	Asn	Ser	Ser	185	190	195	
Ser	Ser	Ser	Leu	Glu	Glu	Lys	Ile	Ala	Ala	Leu	Phe	Asp	Leu	Glu	200	205	210	
Tyr	Tyr	Val	His	Gln	Met	Asp	Asn	Ala	Gln	Asp	Leu	Leu	Ser	Phe	215	220	225	
Gly	Gly	Leu	Gln	Val	Val	Ile	Asn	Gly	Leu	Asn	Ser	Thr	Glu	Pro	230	235	240	
Leu	Val	Lys	Glu	Tyr	Ala	Ala	Phe	Val	Leu	Gly	Ala	Ala	Phe	Ser	245	250	255	
Ser	Asn	Pro	Lys	Val	Gln	Val	Glu	Ala	Ile	Glu	Gly	Gly	Ala	Leu	260	265	270	
Gln	Lys	Leu	Leu	Val	Ile	Leu	Ala	Thr	Glu	Gln	Pro	Leu	Thr	Ala	275	280	285	
Lys	Lys	Lys	Val	Leu	Phe	Ala	Leu	Cys	Ser	Leu	Leu	Arg	His	Phe				

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<210> 302
<211> 2136
<212> DNA
<213> Homo sapiens
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tcgtgggggtc gcgttgccac ccacgcgga ctccccagct ggcgcgcccc 150
tcccatattgc ctgtcctggt caggccccca cccccccttc caoctgacca 200
gccatggggg ctgcggtgtt tttcggctgc actttcgtcg cgttcggccc 250
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tcatcctggt cgcaggggca ttttctggtc tgggtctccct gtccttggtc 350
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gtcccagtac ggcctcctga ttttgggtgc tgctgtctct gtccctctac 450
aggaggtgtt cgcctttgcc tactacaagc tgcttaagaa ggcagatgaa 500
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 cattatcctg ctccatacct tttggggagt tgtgttcttt gatgcctgtg 750  
 agaggagacg gtactgggct ttgggcctgg tggttgggag tcacctactg 800  
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 cctggactga tcgcctgaca gatcccaact gcctgtccac tgcccatgac 1000  
 tgagcccagc cccagcccgg gtccattgcc cacattctct gtctccttct 1050  
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 gttagtctct aagctttacc aggagcagcc tgggttcagc cagtcaagtga 1150  
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<210> 303  
 <211> 247  
 <212> PRT  
 <213> Homo sapiens

<400> 303

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Pro	Ala	Phe	Ala	Leu	Phe	Leu	Ile	Thr	Val	Ala	Gly	Asp	Pro	Leu	
				20					25					30	
Arg	Val	Ile	Ile	Leu	Val	Ala	Gly	Ala	Phe	Phe	Trp	Leu	Val	Ser	
				35					40					45	
Leu	Leu	Leu	Ala	Ser	Val	Val	Trp	Phe	Ile	Leu	Val	His	Val	Thr	
				50					55					60	
Asp	Arg	Ser	Asp	Ala	Arg	Leu	Gln	Tyr	Gly	Leu	Leu	Ile	Phe	Gly	
				65					70					75	
Ala	Ala	Val	Ser	Val	Leu	Leu	Gln	Glu	Val	Phe	Arg	Phe	Ala	Tyr	
				80					85					90	
Tyr	Lys	Leu	Leu	Lys	Lys	Ala	Asp	Glu	Gly	Leu	Ala	Ser	Leu	Ser	
				95					100					105	
Glu	Asp	Gly	Arg	Ser	Pro	Ile	Ser	Ile	Arg	Gln	Met	Ala	Tyr	Val	
				110					115					120	
Ser	Gly	Leu	Ser	Phe	Gly	Ile	Ile	Ser	Gly	Val	Phe	Ser	Val	Ile	
				125					130					135	
Asn	Ile	Leu	Ala	Asp	Ala	Leu	Gly	Pro	Gly	Val	Val	Gly	Ile	His	
				140					145					150	
Gly	Asp	Ser	Pro	Tyr	Tyr	Phe	Leu	Thr	Ser	Ala	Phe	Leu	Thr	Ala	
				155					160					165	
Ala	Ile	Ile	Leu	Leu	His	Thr	Phe	Trp	Gly	Val	Val	Phe	Phe	Asp	
				170					175					180	
Ala	Cys	Glu	Arg	Arg	Arg	Tyr	Trp	Ala	Leu	Gly	Leu	Val	Val	Gly	
				185					190					195	
Ser	His	Leu	Leu	Thr	Ser	Gly	Leu	Thr	Phe	Leu	Asn	Pro	Trp	Tyr	
				200					205					210	
Glu	Ala	Ser	Leu	Leu	Pro	Ile	Tyr	Ala	Val	Thr	Val	Ser	Met	Gly	
				215					220					225	
Leu	Trp	Ala	Phe	Ile	Thr	Ala	Gly	Gly	Ser	Leu	Arg	Ser	Ile	Gln	
				230					235					240	
Arg	Ser	Leu	Leu	Cys	Lys	Asp									
				245											

<210> 304  
 <211> 240  
 <212> DNA  
 <213> Homo sapiens

<220>

<221> unsure  
<222> 108, 123, 126, 154, 198, 206, 217  
<223> unknown base

<400> 304  
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aagatcaacc catttccatt ccgccagatg gcctatgttt ctggtctctc 100  
ccttcggnat catcagtggg gtnttntctg ttatcaatat tttggctgat 150  
gcanttgggc caggtgtggg tgggatccat ggagactcac cctattantt 200  
cctganttca gccttntga cagcagccat tatcctgctc 240

<210> 305  
<211> 378  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 58, 94, 132, 186, 191, 220, 240, 248, 280, 311, 332  
<223> unknown base

<400> 305  
gaccgaccgt tcagatgccg ggttccagta cggcttcctg atttttggtg 50  
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ctgcttaaga aggagatga ggggtagca tngctgagtg aggacggaag 150  
atcacccatt tccatccgcc agatggccta tgtttntggg ntttccttcg 200  
gtatcatcag tgggtgtttt tctgttatca atattttggg tgatgcantt 250  
gggccagggtg tgggtgggat ccatggagan tcaccctatt aattcctgaa 300  
ttcagccttt ntgacagcag ccattatcct gntccatacc ttttggggag 350  
ttgtgttttt tgatgcctgt gagaggag 378

<210> 306  
<211> 655  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 1, 22, 129, 133, 184  
<223> unknown base

<400> 306  
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gcgttgccac cccacgcgga ctccccagnt ggnngcgcct tcccatttgc 150  
ctgtcctggg caggccccca ccccccttcc cacntgacca gccatggggg 200  
ctgcggtgtt tttcggctgc actttcgtcg cgttcggccc ggccttcgcg 250

cttttcttga tcaactgtggc tggggaccog cttogogtta tcatcctggt 300  
 cgcaggggca tttttctggc tgggtctccct gctcctggcc tctgtggtct 350  
 ggttcatctt ggtccatgtg accgaccggt cagatgcccg gctccagtac 400  
 ggcctcctga tttttggtgc tgctgtctct gtcctttctac aggaggtggt 450  
 ccgctttgcc tactacaagc tgcttaagaa ggcagatgag gggtttagcat 500  
 cgctgagtga ggacggaaga tcacccatct ccatccgcca gatggcctat 550  
 gtttctggtc tctccttcgg tatcatcagt ggtgtcttct ctgttatcaa 600  
 tattttggct gatgcacttg ggccaggtgt ggttgggatc catggagact 650  
 cacco 655

<210> 307  
 <211> 650  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 52, 89, 128  
 <223> unknown base

<400> 307  
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 cnttccccgg ggtctggggg tgacattgca cgcgcacct cgtgggggtcg 100  
 cgttgccacc ccacgcggaac tccccagntg gcgcgcccct cccatttgcc 150  
 tgtcctggtc agggccccac ccccccttcc acctgaccag ccatgggggc 200  
 tgcgggtgttt ttcgggctgc actttcgtcg cgttcgggccc cggccttcgc 250  
 gcttttcttg atcaactgtg ctgggggacc gtttcgcgtt atcatcctgg 300  
 tcgcaggggc atttttctgg ctgggtctccc tgctcctggc ctctgtggtc 350  
 tggttcatct tgggtccatgt gaccgaccgg tcagatgccc ggctccagta 400  
 cggcctcctg atttttggtg ctgctgtctc tgctcctcta caggaggtgt 450  
 tccgctttgc ctactacaag ctgcttaaga aggcagatga ggggttagca 500  
 tcgctgagtg aggacggaag atcacccatc tccatccgcc agatggccta 550  
 tgtttctggt ctctccttcg gtatcatcag tgggtgtctc tctgttatca 600  
 atattttggc tgatgcactt gggccaggtg tggttgggat ccatggagac 650

<210> 308  
 <211> 1570  
 <212> DNA  
 <213> Homo sapiens

<400> 308  
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gctgggagca aatccccac cccctacctg ggggacaggg caagtgagac 150  
ctggtgaggg tggctcagca ggcagggag gagaggtgtc tgtgcgtcct 200  
gcacccacat ctttctctgt cccctccttg ccctgtcttg aggctgctag 250  
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gcatgggcta cagcaagacc cccctggatg tgggtgctct gtgctctgat 400  
cacagccttg cttctggggg tcacagagca tgttctcgcc aacaatgatg 450  
tttctgtga ccacccctct aacaccgtgc cctctgggag caaccaggac 500  
ctgggagctg gggccgggga agacgcccgg tcggatgaca gcagcagccg 550  
catcatcaat ggatccgact gcgatatgca caccagccg tggcaggccg 600  
cgctgttgct aaggcccaac cagctctact gcggggcggt gttggtgcat 650  
ccacagtggc tgctcacggc cgcccactgc aggaagaaag ttttcagagt 700  
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tgttccaggg ggtcaaatcc atccccacc ctggtactc ccaccctggc 800  
cactctaacg acctcatgct catcaaactg aacagaagaa ttcgtccac 850  
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caaagtgtt ggtgtctggc tgggggacaa ccaagagccc ccaagtgcac 950  
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gcgggggttg cgtctcaatc tcctggggc actttcatcc tcaagctcag 1500  
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ctgagaagtg gaaaaaaaaa 1570

<210> 309

<211> 293  
 <212> PRT  
 <213> Homo sapiens

<400> 309

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Ile	Thr	Ala	Leu	Leu	Leu	Gly	Val	Thr	Glu	His	Val	Leu	Ala	Asn	
				20					25					30	
Asn	Asp	Val	Ser	Cys	Asp	His	Pro	Ser	Asn	Thr	Val	Pro	Ser	Gly	
				35					40					45	
Ser	Asn	Gln	Asp	Leu	Gly	Ala	Gly	Ala	Gly	Glu	Asp	Ala	Arg	Ser	
				50					55					60	
Asp	Asp	Ser	Ser	Ser	Arg	Ile	Ile	Asn	Gly	Ser	Asp	Cys	Asp	Met	
				65					70					75	
His	Thr	Gln	Pro	Trp	Gln	Ala	Ala	Leu	Leu	Leu	Arg	Pro	Asn	Gln	
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Leu	Tyr	Cys	Gly	Ala	Val	Leu	Val	His	Pro	Gln	Trp	Leu	Leu	Thr	
				95					100					105	
Ala	Ala	His	Cys	Arg	Lys	Lys	Val	Phe	Arg	Val	Arg	Leu	Gly	His	
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Tyr	Ser	Leu	Ser	Pro	Val	Tyr	Glu	Ser	Gly	Gln	Gln	Met	Phe	Gln	
				125					130					135	
Gly	Val	Lys	Ser	Ile	Pro	His	Pro	Gly	Tyr	Ser	His	Pro	Gly	His	
				140					145					150	
Ser	Asn	Asp	Leu	Met	Leu	Ile	Lys	Leu	Asn	Arg	Arg	Ile	Arg	Pro	
				155					160					165	
Thr	Lys	Asp	Val	Arg	Pro	Ile	Asn	Val	Ser	Ser	His	Cys	Pro	Ser	
				170					175					180	
Ala	Gly	Thr	Lys	Cys	Leu	Val	Ser	Gly	Trp	Gly	Thr	Thr	Lys	Ser	
				185					190					195	
Pro	Gln	Val	His	Phe	Pro	Lys	Val	Leu	Gln	Cys	Leu	Asn	Ile	Ser	
				200					205					210	
Val	Leu	Ser	Gln	Lys	Arg	Cys	Glu	Asp	Ala	Tyr	Pro	Arg	Gln	Ile	
				215					220					225	
Asp	Asp	Thr	Met	Phe	Cys	Ala	Gly	Asp	Lys	Ala	Gly	Arg	Asp	Ser	
				230					235					240	
Cys	Gln	Gly	Asp	Ser	Gly	Gly	Pro	Val	Val	Cys	Asn	Gly	Ser	Leu	
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Gln	Gly	Leu	Val	Ser	Trp	Gly	Asp	Tyr	Pro	Cys	Ala	Arg	Pro	Asn	
				260					265					270	
Arg	Pro	Gly	Val	Tyr	Thr	Asn	Leu	Cys	Lys	Phe	Thr	Lys	Trp	Ile	
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Gln	Glu	Thr	Ile	Gln	Ala	Asn	Ser								

<210> 310  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 310  
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<210> 311  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 311  
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<210> 312  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

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<210> 313  
 <211> 3010  
 <212> DNA  
 <213> Homo sapiens

<400> 313  
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 ggacccacgc tccaaggctg agaccagttc cctggaggcc acccaccctg 2050  
 tgccccggca ggccctgggg ctgcagtcct cttacctgct gtgcccacct 2100  
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gtcctcctac ctggggcagc cggggctgcc atcccatttc tcttgctct 2200  
 ggaaggtggg tggggccctg caccgtggg ctggactgcg ctaatgggaa 2250  
 gctcttggtt ttctgggctg gggcctaggg agggctggga tgaggcttgt 2300  
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 ggtcgggggg actggggcac cagaccaggc accacctgga cactttcttg 2550  
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 cacatgcaga ggtgagacct gcaggctccc aggaccagca gccacaagg 2650  
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 ctctcctcgg gcaggaggg aggtggcttc ctccaaagga caccgatgg 2850  
 caggtgccta gggggtgtgg ggttcggtc tcccttcccc tccactgaa 2900  
 gtttgtgctt aaaaaacaat aaatttgact tggcaccact gggggttgg 2950  
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 acatgcgcag 3010

<210> 314  
 <211> 461  
 <212> PRT  
 <213> Homo sapiens

<400> 314  
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 35 40 45  
 Ala Val Thr Gly Ala Val Leu Phe Leu Asn His Ala His Ala Pro  
 50 55 60  
 Gly Thr Ala Pro Pro Pro Val Val Ser Thr Gly Ala Ala Ser Ala  
 65 70 75  
 Asn Ser Ala Leu Val Thr Val Glu Arg Ala Asp Ser Ser His Leu  
 80 85 90  
 Ser Ile Leu Ile Asp Pro Arg Cys Pro Asp Leu Thr Asp Ser Phe  
 95 100 105

Ala Arg Leu Glu Ser	Ala Gln Ala Ser	Val Leu Gln Ala Leu Thr	110	115	120
Glu His Gln Ala Gln	Pro Arg Leu Val	Gly Asp Gln Glu Gln Glu	125	130	135
Leu Leu Asp Thr Leu	Ala Asp Gln Leu	Pro Arg Leu Leu Ala Arg	140	145	150
Ala Ser Glu Leu Gln	Thr Glu Cys Met	Gly Leu Arg Lys Gly His	155	160	165
Gly Thr Leu Gly Gln	Gly Leu Ser Ala	Leu Gln Ser Glu Gln Gly	170	175	180
Arg Leu Ile Gln Leu	Leu Ser Glu Ser	Gln Gly His Met Ala His	185	190	195
Leu Val Asn Ser Val	Ser Asp Ile Leu	Asp Ala Leu Gln Arg Asp	200	205	210
Arg Gly Leu Gly Arg	Pro Arg Asn Lys	Ala Asp Leu Gln Arg Ala	215	220	225
Pro Ala Arg Gly Thr	Arg Pro Arg Gly	Cys Ala Thr Gly Ser Arg	230	235	240
Pro Arg Asp Cys Leu	Asp Val Leu Leu	Ser Gly Gln Gln Asp Asp	245	250	255
Gly Val Tyr Ser Val	Phe Pro Thr His	Tyr Pro Ala Gly Phe Gln	260	265	270
Val Tyr Cys Asp Met	Arg Thr Asp Gly	Gly Gly Trp Thr Val Phe	275	280	285
Gln Arg Arg Glu Asp	Gly Ser Val Asn	Phe Phe Arg Gly Trp Asp	290	295	300
Ala Tyr Arg Asp Gly	Phe Gly Arg Leu	Thr Gly Glu His Trp Leu	305	310	315
Gly Leu Lys Arg Ile	His Ala Leu Thr	Thr Gln Ala Ala Tyr Glu	320	325	330
Leu His Val Asp Leu	Glu Asp Phe Glu	Asn Gly Thr Ala Tyr Ala	335	340	345
Arg Tyr Gly Ser Phe	Gly Val Gly Leu	Phe Ser Val Asp Pro Glu	350	355	360
Glu Asp Gly Tyr Pro	Leu Thr Val Ala	Asp Tyr Ser Gly Thr Ala	365	370	375
Gly Asp Ser Leu Leu	Lys His Ser Gly	Met Arg Phe Thr Thr Lys	380	385	390
Asp Arg Asp Ser Asp	His Ser Glu Asn	Asn Cys Ala Ala Phe Tyr	395	400	405
Arg Gly Ala Trp Trp	Tyr Arg Asn Cys	His Thr Ser Asn Leu Asn	410	415	420

Gly Gln Tyr Leu Arg Gly Ala His Ala Ser Tyr Ala Asp Gly Val  
425 430 435

Glu Trp Ser Ser Trp Thr Gly Trp Gln Tyr Ser Leu Lys Phe Ser  
440 445 450

Glu Met Lys Ile Arg Pro Val Arg Glu Asp Arg  
455 460

<210> 315  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 315  
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<210> 316  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 316  
gaccagcagg gccaaaggaca agg 23

<210> 317  
<211> 44  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 317  
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<210> 318  
<211> 1841  
<212> DNA  
<213> Homo sapiens

<400> 318  
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ggcaatccga ccacatttca ctctcacgc ttaggaatc cagatgcagg 150  
ccaagtacag cagcacgagg gacatgctgg atgatgatgg ggacaccacc 200  
atgagcctgc attotcaagc ctctgocaca actcggcatc cagagccccg 250  
gcgcacagag cacagggctc cctcttcaac gtggcgacca gtggccctga 300  
ccctgctgac tttgtgcttg gtgctgctga tagggctggc agccctgggg 350  
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 ctacaaatag cagagtgagc caggcgggtgc caaagcaagg gctagttgag 1050  
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 aaaatgggtt ctctgttttc ctgttcagga tcaccagcat ttctgagctt 1150  
 gggtttatgc acgtatttaa cagtcacaag aagtcttatt tacatgccac 1200  
 caaccaacct cagaaacca taatgtcatc tgccttcttg gcttagagat 1250  
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 atgtcttcct tacacttggg ggaataagaa actttttgaa gtagaggaaa 1350  
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<210> 319  
 <211> 280  
 <212> PRT  
 <213> Homo sapiens



<400> 319

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Gly	Asp	Thr	Thr	Met	Ser	Leu	His	Ser	Gln	Ala	Ser	Ala	Thr	Thr	20	25	30	
Arg	His	Pro	Glu	Pro	Arg	Arg	Thr	Glu	His	Arg	Ala	Pro	Ser	Ser	35	40	45	
Thr	Trp	Arg	Pro	Val	Ala	Leu	Thr	Leu	Leu	Thr	Leu	Cys	Leu	Val	50	55	60	
Leu	Leu	Ile	Gly	Leu	Ala	Ala	Leu	Gly	Leu	Leu	Phe	Phe	Gln	Tyr	65	70	75	
Tyr	Gln	Leu	Ser	Asn	Thr	Gly	Gln	Asp	Thr	Ile	Ser	Gln	Met	Glu	80	85	90	
Glu	Arg	Leu	Gly	Asn	Thr	Ser	Gln	Glu	Leu	Gln	Ser	Leu	Gln	Val	95	100	105	
Gln	Asn	Ile	Lys	Leu	Ala	Gly	Ser	Leu	Gln	His	Val	Ala	Glu	Lys	110	115	120	
Leu	Cys	Arg	Glu	Leu	Tyr	Asn	Lys	Ala	Gly	Ala	His	Arg	Cys	Ser	125	130	135	
Pro	Cys	Thr	Glu	Gln	Trp	Lys	Trp	His	Gly	Asp	Asn	Cys	Tyr	Gln	140	145	150	
Phe	Tyr	Lys	Asp	Ser	Lys	Ser	Trp	Glu	Asp	Cys	Lys	Tyr	Phe	Cys	155	160	165	
Leu	Ser	Glu	Asn	Ser	Thr	Met	Leu	Lys	Ile	Asn	Lys	Gln	Glu	Asp	170	175	180	
Leu	Glu	Phe	Ala	Ala	Ser	Gln	Ser	Tyr	Ser	Glu	Phe	Phe	Tyr	Ser	185	190	195	
Tyr	Trp	Thr	Gly	Leu	Leu	Arg	Pro	Asp	Ser	Gly	Lys	Ala	Trp	Leu	200	205	210	
Trp	Met	Asp	Gly	Thr	Pro	Phe	Thr	Ser	Glu	Leu	Phe	His	Ile	Ile	215	220	225	
Ile	Asp	Val	Thr	Ser	Pro	Arg	Ser	Arg	Asp	Cys	Val	Ala	Ile	Leu	230	235	240	
Asn	Gly	Met	Ile	Phe	Ser	Lys	Asp	Cys	Lys	Glu	Leu	Lys	Arg	Cys	245	250	255	
Val	Cys	Glu	Arg	Arg	Ala	Gly	Met	Val	Lys	Pro	Glu	Ser	Leu	His	260	265	270	
Val	Pro	Pro	Glu	Thr	Leu	Gly	Glu	Gly	Asp	275	280							

<210> 320

<211> 468

<212> DNA

<213> Homo sapiens

[illegible]

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<210> 324
<211> 40
<212> DNA
<213> Artificial Sequence
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<220>  
<223> Synthetic oligonucleotide probe

<400> 324  
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<210> 325  
<211> 2988  
<212> DNA  
<213> Homo sapiens

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<210> 326

<211> 775

<212> PRT

<213> Homo sapiens

<400> 326

Met	Arg	Ala	Ser	Leu	Leu	Leu	Ser	Val	Leu	Arg	Pro	Ala	Gly	Pro	
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Val	Ala	Val	Gly	Ile	Ser	Leu	Gly	Phe	Thr	Leu	Ser	Leu	Leu	Ser	
				20					25					30	
Val	Thr	Trp	Val	Glu	Glu	Pro	Cys	Gly	Pro	Gly	Pro	Pro	Gln	Pro	
				35					40					45	
Gly	Asp	Ser	Glu	Leu	Pro	Pro	Arg	Gly	Asn	Thr	Asn	Ala	Ala	Arg	
				50					55					60	
Arg	Pro	Asn	Ser	Val	Gln	Pro	Gly	Ala	Glu	Arg	Glu	Lys	Pro	Gly	
				65					70					75	
Ala	Gly	Glu	Gly	Ala	Gly	Glu	Asn	Trp	Glu	Pro	Arg	Val	Leu	Pro	
				80					85					90	
Tyr	His	Pro	Ala	Gln	Pro	Gly	Gln	Ala	Ala	Lys	Lys	Ala	Val	Arg	
				95					100					105	
Thr	Arg	Tyr	Ile	Ser	Thr	Glu	Leu	Gly	Ile	Arg	Gln	Arg	Leu	Leu	
				110					115					120	
Val	Ala	Val	Leu	Thr	Ser	Gln	Thr	Thr	Leu	Pro	Thr	Leu	Gly	Val	
				125					130					135	
Ala	Val	Asn	Arg	Thr	Leu	Gly	His	Arg	Leu	Glu	Arg	Val	Val	Phe	
				140					145					150	
Leu	Thr	Gly	Ala	Arg	Gly	Arg	Arg	Ala	Pro	Pro	Gly	Met	Ala	Val	
				155					160					165	
Val	Thr	Leu	Gly	Glu	Glu	Arg	Pro	Ile	Gly	His	Leu	His	Leu	Ala	
				170					175					180	
Leu	Arg	His	Leu	Leu	Glu	Gln	His	Gly	Asp	Asp	Phe	Asp	Trp	Phe	
				185					190					195	
Phe	Leu	Val	Pro	Asp	Thr	Thr	Tyr	Thr	Glu	Ala	His	Gly	Leu	Ala	
				200					205					210	
Arg	Leu	Thr	Gly	His	Leu	Ser	Leu	Ala	Ser	Ala	Ala	His	Leu	Tyr	
				215					220					225	
Leu	Gly	Arg	Pro	Gln	Asp	Phe	Ile	Gly	Gly	Glu	Pro	Thr	Pro	Gly	
				230					235					240	
Arg	Tyr	Cys	His	Gly	Gly	Phe	Gly	Val	Leu	Leu	Ser	Arg	Met	Leu	
				245					250					255	
Leu	Gln	Gln	Leu	Arg	Pro	His	Leu	Glu	Gly	Cys	Arg	Asn	Asp	Ile	
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Val	Ser	Ala	Arg	Pro	Asp	Glu	Trp	Leu	Gly	Arg	Cys	Ile	Leu	Asp	
				275					280					285	
Ala	Thr	Gly	Val	Gly	Cys	Thr	Gly	Asp	His	Glu	Gly	Val	His	Tyr	
				290					295					300	
Ser	His	Leu	Glu	Leu	Ser	Pro	Gly	Glu	Pro	Val	Gln	Glu	Gly	Asp	
				305					310					315	
Pro	His	Phe	Arg	Ser	Ala	Leu	Thr	Ala	His	Pro	Val	Arg	Asp	Pro	
				320					325					330	
Val	His	Met	Tyr	Gln	Leu	His	Lys	Ala	Phe	Ala	Arg	Ala	Glu	Leu	
				335					340					345	
Glu	Arg	Thr	Tyr	Gln	Glu	Ile	Gln	Glu	Leu	Gln	Trp	Glu	Ile	Gln	
				350					355					360	
Asn	Thr	Ser	His	Leu	Ala	Val	Asp	Gly	Asp	Arg	Ala	Ala	Ala	Trp	
				365					370					375	
Pro	Val	Gly	Ile	Pro	Ala	Pro	Ser	Arg	Pro	Ala	Ser	Arg	Phe	Glu	
				380					385					390	
Val	Leu	Arg	Trp	Asp	Tyr	Phe	Thr	Glu	Gln	His	Ala	Phe	Ser	Cys	
				395					400					405	
Ala	Asp	Gly	Ser	Pro	Arg	Cys	Pro	Leu	Arg	Gly	Ala	Asp	Arg	Ala	
				410					415					420	
Asp	Val	Ala	Asp	Val	Leu	Gly	Thr	Ala	Leu	Glu	Glu	Leu	Asn	Arg	
				425					430					435	
Arg	Tyr	His	Pro	Ala	Leu	Arg	Leu	Gln	Lys	Gln	Gln	Leu	Val	Asn	
				440					445					450	
Gly	Tyr	Arg	Arg	Phe	Asp	Pro	Ala	Arg	Gly	Met	Glu	Tyr	Thr	Leu	
				455					460					465	
Asp	Leu	Gln	Leu	Glu	Ala	Leu	Thr	Pro	Gln	Gly	Gly	Arg	Arg	Pro	
				470					475					480	
Leu	Thr	Arg	Arg	Val	Gln	Leu	Leu	Arg	Pro	Leu	Ser	Arg	Val	Glu	
				485					490					495	
Ile	Leu	Pro	Val	Pro	Tyr	Val	Thr	Glu	Ala	Ser	Arg	Leu	Thr	Val	
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Leu	Leu	Pro	Leu	Ala	Ala	Ala	Glu	Arg	Asp	Leu	Ala	Pro	Gly	Phe	
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Leu	Glu	Ala	Phe	Ala	Thr	Ala	Ala	Leu	Glu	Pro	Gly	Asp	Ala	Ala	
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Ala	Ala	Leu	Thr	Leu	Leu	Leu	Leu	Tyr	Glu	Pro	Arg	Gln	Ala	Gln	
				545					550					555	
Arg	Val	Ala	His	Ala	Asp	Val	Phe	Ala	Pro	Val	Lys	Ala	His	Val	
				560					565					570	
Ala	Glu	Leu	Glu	Arg	Arg	Phe	Pro	Gly	Ala	Arg	Val	Pro	Trp	Leu	
				575					580					585	

Ser	Val	Gln	Thr	Ala	Ala	Pro	Ser	Pro	Leu	Arg	Leu	Met	Asp	Leu	
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Leu	Ser	Lys	Lys	His	Pro	Leu	Asp	Thr	Leu	Phe	Leu	Leu	Ala	Gly	
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Pro	Asp	Thr	Val	Leu	Thr	Pro	Asp	Phe	Leu	Asn	Arg	Cys	Arg	Met	
				620					625					630	
His	Ala	Ile	Ser	Gly	Trp	Gln	Ala	Phe	Phe	Pro	Met	His	Phe	Gln	
				635					640					645	
Ala	Phe	His	Pro	Gly	Val	Ala	Pro	Pro	Gln	Gly	Pro	Gly	Pro	Pro	
				650					655					660	
Glu	Leu	Gly	Arg	Asp	Thr	Gly	Arg	Phe	Asp	Arg	Gln	Ala	Ala	Ser	
				665					670					675	
Glu	Ala	Cys	Phe	Tyr	Asn	Ser	Asp	Tyr	Val	Ala	Ala	Arg	Gly	Arg	
				680					685					690	
Leu	Ala	Ala	Ala	Ser	Glu	Gln	Glu	Glu	Glu	Leu	Leu	Glu	Ser	Leu	
				695					700					705	
Asp	Val	Tyr	Glu	Leu	Phe	Leu	His	Phe	Ser	Ser	Leu	His	Val	Leu	
				710					715					720	
Arg	Ala	Val	Glu	Pro	Ala	Leu	Leu	Gln	Arg	Tyr	Arg	Ala	Gln	Thr	
				725					730					735	
Cys	Ser	Ala	Arg	Leu	Ser	Glu	Asp	Leu	Tyr	His	Arg	Cys	Leu	Gln	
				740					745					750	
Ser	Val	Leu	Glu	Gly	Leu	Gly	Ser	Arg	Thr	Gln	Leu	Ala	Met	Leu	
				755					760					765	
Leu	Phe	Glu	Gln	Glu	Gln	Gly	Asn	Ser	Thr						
				770					775						

<210> 327  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 327  
 tggaaggctg ccgcaacgac aatc 24

<210> 328  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 328  
 ctgatgtggc cgatgttctg 20

<210> 329  
 <211> 20

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 329  
atggctcagt gtgcagacag 20

<210> 330  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 330  
gcatgctgct ccgtgaagta gtcc 24

<210> 331  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 331  
atgcatggga aagaaggcct gccc 24

<210> 332  
<211> 47  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 332  
tgcactggtg accacgaggg ggtgcactat agccatctgg agctgag 47

<210> 333  
<211> 1095  
<212> DNA  
<213> Homo sapiens

<400> 333  
gctctggccg gccccggcga ttggtcaccg cccgctaggg gacagccctg 50  
gctcctctg attggcaagc gctggccacc tccccacacc ctttgccaac 100  
gctcccctag tggagaaaag gagtagctat tagccaattc ggcagggcc 150  
gctttttaga agcttgattt cctttgaaga tgaaagacta gcggaagctc 200  
tgctcttttc ccagtgggc gaggggaactc ggggcgattg gctgggaact 250  
gtatccaccc aaatgtcacc gatttcttcc tatgcaggaa atgagcagac 300  
ccatcaataa gaaatttctc agcctggccg aaaatggttg gccccacgaa 350  
gccacgacaa ctggaggcaa agagggttgc tcaacgcccc gcctcattgg 400



aaaaccaa at cagatctggg acctatatag cgtggcggag gcggggcgat 450  
gattgtcgcg ctgcaccca ctgcagctgc gcacagtcgc atttctttcc 500  
ccgcccctga gaccctgcag caccatctgt catggcggct gggctgtttg 550  
gtttgagcgc tcgccgtctt ttggcggcag cggcgacgcg agggctcccg 600  
gccgcccgcg tccgctggga atctagcttc tccaggactg tggtcgcccc 650  
gtccgctgtg gcgggaaagc ggccccaga accgaccaca ccgtggcaag 700  
aggaccaga acccgaggac gaaaacttgt atgagaagaa occagactcc 750  
catggttatg acaaggaccc cgttttggac gtctggaaca tgcgacttgt 800  
cttcttcttt ggcgtctcca tcacctcgtt ccttggcagc acctttgtgg 850  
cctatctgcc tgactacagg atgaaagagt ggtcccgccg cgaagctgag 900  
aggcttgtga aataccgaga ggccaatggc cttcccatca tggaatccaa 950  
ctgcttcgac ccagcaaga tccagctgcc agaggatgag tgaccagtgt 1000  
ctaagtgggg ctcaagaagc accgccttcc ccaccccctg cctgccattc 1050  
tgacctcttc tcagagcacc taattaaagg ggctgaaagt ctgaa 1095

<210> 334  
<211> 153  
<212> PRT  
<213> Homo sapiens

<400> 334  
Met Ala Ala Gly Leu Phe Gly Leu Ser Ala Arg Arg Leu Leu Ala  
1 5 10 15  
Ala Ala Ala Thr Arg Gly Leu Pro Ala Ala Arg Val Arg Trp Glu  
20 25 30  
Ser Ser Phe Ser Arg Thr Val Val Ala Pro Ser Ala Val Ala Gly  
35 40 45  
Lys Arg Pro Pro Glu Pro Thr Thr Pro Trp Gln Glu Asp Pro Glu  
50 55 60  
Pro Glu Asp Glu Asn Leu Tyr Glu Lys Asn Pro Asp Ser His Gly  
65 70 75  
Tyr Asp Lys Asp Pro Val Leu Asp Val Trp Asn Met Arg Leu Val  
80 85 90  
Phe Phe Phe Gly Val Ser Ile Ile Leu Val Leu Gly Ser Thr Phe  
95 100 105  
Val Ala Tyr Leu Pro Asp Tyr Arg Met Lys Glu Trp Ser Arg Arg  
110 115 120  
Glu Ala Glu Arg Leu Val Lys Tyr Arg Glu Ala Asn Gly Leu Pro  
125 130 135  
Ile Met Glu Ser Asn Cys Phe Asp Pro Ser Lys Ile Gln Leu Pro  
140 145 150

Glu Asp Glu

<210> 335  
<211> 442  
<212> DNA  
<213> Homo sapiens

<400> 335  
ggcggctggg ctgttttggt tgagcgctcg ccgtcttttg gcggcagcgg 50  
cgacgcgagg gctcccggcc gcccgcgctc gctgggaatc tagcttctcc 100  
aggactgtgg tcgccccgtc cgctgtggcg ggaaagcggc cccagaacc 150  
gaccacaccg tggcaagagg acccagaacc cgaggacgaa aacttgatg 200  
agaagaaccc agactcccat ggttatgaca aggaccccggt ttgggacgtc 250  
tggaacatgc gacttgtctt cttctttggc gtctccatca tcctggtcct 300  
tggcagcacc tttgtggcct atctgcctga ctacaggatg aaagagtgg 350  
ccgcccgcga agctgagagg cttgtgaaat accgagaggc caatggcctt 400  
cccatcatgg aatccaactg cttcgacccc agcaagatcc ag 442

<210> 336  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 336  
ctgagaccct gcagacccat ctg 23

<210> 337  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 337  
ggtgcttctt gagccccact tagc 24

<210> 338  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 338  
aatctagctt ctccaggact gtggtcgccc cgtccgctgt 40

<210> 339  
<211> 2162  
<212> DNA

<213> Homo sapiens

<400> 339

gcggcggtta tgccgcttgc tctgctogtc ctgttgetcc tggggcccgg 50  
cggctggtgc cttgcagaac cccacgcga cagcctgcgg gaggaacttg 100  
tcatcacccc gctgccttcc ggggacgtag ccgccacatt ccagttccgc 150  
acgcgctggg attcggagct tcagcgggaa ggagtgtccc attacaggct 200  
ctttcccaaa gccctggggc agctgatctc caagtattct ctacgggagc 250  
tgcacctgtc attcacacaa ggcttttggg ggaccogata ctgggggcca 300  
cccttcctgc aggccccatc aggtgcagag ctgtgggtct ggttccaaga 350  
cactgtcact gatgtggata aatcttggaa ggagctcagt aatgtcctct 400  
cagggatctt ctgcgcctct ctcaacttca tcgactccac caacacagtc 450  
actcccactg cctccttcaa acccctgggt ctggccaatg aactgacca 500  
ctactttctg cgctatgctg tgctgcgcgc ggaggtggtc tgcaccgaaa 550  
acctcacccc ctggaagaag ctcttgccct gtagttocaa ggcaggcctc 600  
tctgtgctgc tgaaggcaga tcgcttggtc cacaccagct accactccca 650  
ggcagtgcac atccgccctg tttgcagaaa tgcacgctgt actagcatct 700  
cctgggagct gaggcagacc ctgtcagttg tatttgatgc cttcatcacg 750  
gggcagggaa agaaagactg gtccctcttc cggatgttct cccgaacct 800  
cacggagccc tgccccctgg cttcagagag ccgagtctat gtggacatca 850  
ccacctacaa ccaggacaac gagacattag aggtgcaccc acccccgacc 900  
actacatatc aggacgtcat cctaggcact cggaagacct atgccatcta 950  
tgacttgctt gacaccgcca tgatcaacaa ctctcgaaac ctcaacatcc 1000  
agctcaagtg gaagagaccc ccagagaatg agggcccccc agtgcccttc 1050  
ctgcatgccc agcggtagct gagtggctat gggctgcaga agggggagct 1100  
gagcacactg ctgtacaaca cccaccata ccgggccttc ccggtgctgc 1150  
tgctggacac cgtaccctgg tatctgcggc tgtatgtgca caccctcacc 1200  
atcacctcca agggcaagga gaacaaacca agttacatcc actaccagcc 1250  
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cggccaactc agtcaccaag gtttccatcc agtttgagcg ggcgctgctg 1350  
aagtggaccg agtacagcc agatcctaac catggcttct atgtcagccc 1400  
atctgtcctc agcgcccttg tgcccagcat ggtagcagcc aagccagtgg 1450  
actgggaaga gagtcccctc ttcaacagcc tgttcccagt ctctgatggc 1500

tctaactact ttgtgcggct ctacacggag ccgctgctgg tgaacctgcc 1550  
gacaccggac ttcagcatgc cctacaacgt gatctgcctc acgtgcactg 1600  
tggtggccgt gtgctacggc tccttctaca atctcctcac ccgaaccttc 1650  
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tatccggcgc gcccgagggt tccccccact ctgattcttg ccctttccag 1750  
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tgccacttgc tctcctcaga gttggctttt gaaccaaagt gccctggacc 1850  
aggtcagggc ctacagctgt gttgtccagt acaggagcca cgagccaaat 1900  
gtggcatttg aatttgaatt aacttagaaa ttcatttcct cacctgtagt 1950  
ggccacctct atattgaggt gctcaataag caaaagtggc cgggtggctgc 2000  
tgtattggac agcacagaaa aagatttcca tcaccacaga aaggtcggct 2050  
ggcagcactg gccaaagtga tgggggtggt tacacagtgt atgtcactgt 2100  
gtagtggatg gagtttactg tttgtggaat aaaaacggct gtttccgtgg 2150  
aaaaaaaaaa aa 2162

<210> 340  
<211> 574  
<212> PRT  
<213> Homo sapiens

<400> 340  
Met Pro Leu Ala Leu Leu Val Leu Leu Leu Leu Gly Pro Gly Gly  
1 5 10 15  
Trp Cys Leu Ala Glu Pro Pro Arg Asp Ser Leu Arg Glu Glu Leu  
20 25 30  
Val Ile Thr Pro Leu Pro Ser Gly Asp Val Ala Ala Thr Phe Gln  
35 40 45  
Phe Arg Thr Arg Trp Asp Ser Glu Leu Gln Arg Glu Gly Val Ser  
50 55 60  
His Tyr Arg Leu Phe Pro Lys Ala Leu Gly Gln Leu Ile Ser Lys  
65 70 75  
Tyr Ser Leu Arg Glu Leu His Leu Ser Phe Thr Gln Gly Phe Trp  
80 85 90  
Arg Thr Arg Tyr Trp Gly Pro Pro Phe Leu Gln Ala Pro Ser Gly  
95 100 105  
Ala Glu Leu Trp Val Trp Phe Gln Asp Thr Val Thr Asp Val Asp  
110 115 120  
Lys Ser Trp Lys Glu Leu Ser Asn Val Leu Ser Gly Ile Phe Cys  
125 130 135  
Ala Ser Leu Asn Phe Ile Asp Ser Thr Asn Thr Val Thr Pro Thr  
140 145 150

Ala Ser Phe Lys	Pro Leu Gly Leu Ala	Asn Asp Thr Asp His Tyr	155	160	165
Phe Leu Arg Tyr	Ala Val Leu Pro Arg	Glu Val Val Cys Thr Glu	170	175	180
Asn Leu Thr Pro	Trp Lys Lys Leu Leu	Pro Cys Ser Ser Lys Ala	185	190	195
Gly Leu Ser Val	Leu Leu Lys Ala Asp	Arg Leu Phe His Thr Ser	200	205	210
Tyr His Ser Gln	Ala Val His Ile Arg	Pro Val Cys Arg Asn Ala	215	220	225
Arg Cys Thr Ser	Ile Ser Trp Glu Leu	Arg Gln Thr Leu Ser Val	230	235	240
Val Phe Asp Ala	Phe Ile Thr Gly Gln	Gly Lys Lys Asp Trp Ser	245	250	255
Leu Phe Arg Met	Phe Ser Arg Thr Leu	Thr Glu Pro Cys Pro Leu	260	265	270
Ala Ser Glu Ser	Arg Val Tyr Val Asp	Ile Thr Thr Tyr Asn Gln	275	280	285
Asp Asn Glu Thr	Leu Glu Val His Pro	Pro Pro Thr Thr Thr Tyr	290	295	300
Gln Asp Val Ile	Leu Gly Thr Arg Lys	Thr Tyr Ala Ile Tyr Asp	305	310	315
Leu Leu Asp Thr	Ala Met Ile Asn Asn	Ser Arg Asn Leu Asn Ile	320	325	330
Gln Leu Lys Trp	Lys Arg Pro Pro Glu	Asn Glu Ala Pro Pro Val	335	340	345
Pro Phe Leu His	Ala Gln Arg Tyr Val	Ser Gly Tyr Gly Leu Gln	350	355	360
Lys Gly Glu Leu	Ser Thr Leu Leu Tyr	Asn Thr His Pro Tyr Arg	365	370	375
Ala Phe Pro Val	Leu Leu Leu Asp Thr	Val Pro Trp Tyr Leu Arg	380	385	390
Leu Tyr Val His	Thr Leu Thr Ile Thr	Ser Lys Gly Lys Glu Asn	395	400	405
Lys Pro Ser Tyr	Ile His Tyr Gln Pro	Ala Gln Asp Arg Leu Gln	410	415	420
Pro His Leu Leu	Glu Met Leu Ile Gln	Leu Pro Ala Asn Ser Val	425	430	435
Thr Lys Val Ser	Ile Gln Phe Glu Arg	Ala Leu Leu Lys Trp Thr	440	445	450
Glu Tyr Thr Pro	Asp Pro Asn His Gly	Phe Tyr Val Ser Pro Ser	455	460	465

Val Leu Ser Ala Leu Val Pro Ser Met Val Ala Ala Lys Pro Val  
470 475 480

Asp Trp Glu Glu Ser Pro Leu Phe Asn Ser Leu Phe Pro Val Ser  
485 490 495

Asp Gly Ser Asn Tyr Phe Val Arg Leu Tyr Thr Glu Pro Leu Leu  
500 505 510

Val Asn Leu Pro Thr Pro Asp Phe Ser Met Pro Tyr Asn Val Ile  
515 520 525

Cys Leu Thr Cys Thr Val Val Ala Val Cys Tyr Gly Ser Phe Tyr  
530 535 540

Asn Leu Leu Thr Arg Thr Phe His Ile Glu Glu Pro Arg Thr Gly  
545 550 555

Gly Leu Ala Lys Arg Leu Ala Asn Leu Ile Arg Arg Ala Arg Gly  
560 565 570

Val Pro Pro Leu

<210> 341  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 341  
tggacaccgt accctggtat ctgc 24

<210> 342  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> Artificial Sequence  
<222> 1-24  
<223> Synthetic oligonucleotide probe

<400> 342  
ccaactctga ggagagcaag tggc 24

<210> 343  
<211> 44  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 343  
tgtatgtgca caccctcacc atcacctcca agggcaagga gaac 44

<210> 344  
<211> 762  
<212> DNA  
<213> Homo sapiens

<400> 344  
 caacatgggg tccagcagct tcttggtcct catggtgtct ctcgttcttg 50  
 tgaccttggg ggctgtggaa ggagttaaag agggatataga gaaagcaggg 100  
 gtttgcccag ctgacaacgt acgctgcttc aagtccgatc ctccccagtg 150  
 tcacacagac caggactgtc tgggggaaag gaagtgttgt tacctgcact 200  
 gtggcttcaa gtgtgtgatt cctgtgaagg aactggaaga aggaggaaac 250  
 aaggatgaag atgtgtcaag gccataccct gagccaggat gggaggccaa 300  
 gtgtccaggc tctcctcta ccagggtgcc tcagaaatga tgctgggtcc 350  
 tttctacctc tgggggtcac tctcacttgg cacctgcccc tgagggtcct 400  
 gagacttga atattgaaga agcaataccc aacccacca aagaaaacct 450  
 gagcttgaag tccttttccc caaaaagagg gaagagtcac aaaaagtcca 500  
 gacccaggg acggtacttt ccctctctac ctggtgctcc tccctaattgc 550  
 tcatgaatgg acccctcatg aatgaaacca gtgcccttat aagagacccc 600  
 aaagagctgc cttgcccttc tgcaatgtgt gatcacagct agaaggcact 650  
 gtcagagaag agaaactggt cctcaccaga tgctgaatct gctggtgcct 700  
 tgatcttga cttcccagcc tctagaactg taagaaataa atatttgctg 750  
 ttataatcc aa 762

<210> 345  
 <211> 111  
 <212> PRT  
 <213> Homo sapiens

<400> 345  
 Met Gly Ser Ser Ser Phe Leu Val Leu Met Val Ser Leu Val Leu  
 1 5 10 15  
 Val Thr Leu Val Ala Val Glu Gly Val Lys Glu Gly Ile Glu Lys  
 20 25 30  
 Ala Gly Val Cys Pro Ala Asp Asn Val Arg Cys Phe Lys Ser Asp  
 35 40 45  
 Pro Pro Gln Cys His Thr Asp Gln Asp Cys Leu Gly Glu Arg Lys  
 50 55 60  
 Cys Cys Tyr Leu His Cys Gly Phe Lys Cys Val Ile Pro Val Lys  
 65 70 75  
 Glu Leu Glu Glu Gly Gly Asn Lys Asp Glu Asp Val Ser Arg Pro  
 80 85 90  
 Tyr Pro Glu Pro Gly Trp Glu Ala Lys Cys Pro Gly Ser Ser Ser  
 95 100 105  
 Thr Arg Cys Pro Gln Lys  
 110

<210> 346  
<211> 2528  
<212> DNA  
<213> Homo sapiens

<400> 346  
aaactcagca cttgccggag tggctcattg ttaagacaaa ggggtgtgcac 50  
ttcctggcca ggaaacctga gcggtgagac tcccagctgc ctacatcaag 100  
gccccaggac atgcagaacc ttcctctaga acccgaccca ccaccatgag 150  
gtcctgcctg tggagatgca ggcacctgag ccaaggcgtc cagtggtoct 200  
tgcttctggc tgtcctggtc ttctttctct tcgccttgcc ctcttttatt 250  
aaggagcctc aaacaaagcc ttccaggcat caacgcacag agaacattaa 300  
agaaaggtct ctacagtccc tggcaaagcc taagtcccag gcacccacaa 350  
gggcgaggag gacaaccatc tatgcagagc cagcgccaga gaacaatgcc 400  
ctcaacacac aaaccagcc caaggccac accaccggag acagaggaaa 450  
ggaggccaac caggcaccgc cggaggagca ggacaaggtg cccacacag 500  
cacagagggc agcatggaag agcccagaaa aagagaaaac catggtgaac 550  
aactgtcac ccagagggca agatgcaggg atggcctctg gcaggacaga 600  
ggcacaatca tggaagagcc aggacacaaa gacgacccaa ggaaatgggg 650  
gccagaccag gaagctgacg gcctccagga cgggtgtcaga gaagcaccag 700  
ggcaaagcgg caaccacagc caagacgctc attcccaaaa gtcagcacag 750  
aatgctggct cccacaggag cagtgtcaac aaggacgaga cagaaaggag 800  
tgaccacagc agtcatccca cctaaggaga agaaacctca ggccacccca 850  
ccccctgccc ctttccagag ccccacgacg cagagaaacc aaagactgaa 900  
ggccgccaac ttcaaactctg agcctcgggtg ggattttgag gaaaaatata 950  
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aaagcctcca agtcgctgtg gctccagaaa ctctttctgc ccaacctcac 1050  
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aacactttgc accacccttt ggcttcatgg agctcaacta ctcttggtg 1150  
cagaaggtcg tgacacgctt ccctccagtg cccagcagc agctgctcct 1200  
ggccagcctc cccgctggga gcctccggtg catcacctgt gccgtggtgg 1250  
gcaacggggg catcctgaac aactcccaca tgggccagga gatagacagt 1300  
cacgactacg tgttccgatt gagcggagct ctcattaaag gctacgaaca 1350  
ggatgtgggg actcggacat ccttctacgg ctttaccgcc ttctccctga 1400  
cccagtcact ccttatattg ggcaatcggg gtttcaagaa cgtgcctctt 1450



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gtggctggaa gcactgctta tgaatcagac ggtgatgtca aaaaaccttt 1550  
tctgggttcag gcacagaccc caggaagctt ttcgggaagc cctgcacatg 1600  
gacaggtacc tggttctgca cccagacttt ctccgataca tgaagaacag 1650  
gtttctgagg tctaagaccc tggatgggtgc ccactggagg atataccgcc 1700  
ccaccactgg ggccctcctg ctgctcactg cccttcagct ctgtgaccag 1750  
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tcaagctgga gagagaagtc tggaagcggc tacacgatga agggataatc 1900  
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gtgggaatct tgagactctt tggccatttc ccatgggtca gactaagctc 2050  
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ctgtaggtcc tgaggccagg gatttttaat taaatggggg gatgggtggc 2200  
caataccaca attcctgctg aaaaacactc ttccagtcca aaagcttctt 2250  
gatacagaaa aaagagcctg gatttacaga aacatataga tctggtttga 2300  
attccagatc gagtttacag ttgtgaaatc ttgaagggtat tacttaactt 2350  
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ggctctatact tgtccttgctc tttaagctat ttgacaactc tacgtgttgt 2450  
agaaaactga taataatata aatgattgtt gtccatggaa agggcaataa 2500  
atcttctaca gtgaaaaaaaa aaaaaaaaa 2528

<210> 347  
<211> 600  
<212> PRT  
<213> Homo sapiens

<400> 347  
Met Arg Ser Cys Leu Trp Arg Cys Arg His Leu Ser Gln Gly Val  
1 5 10 15  
Gln Trp Ser Leu Leu Leu Ala Val Leu Val Phe Phe Leu Phe Ala  
20 25 30  
Leu Pro Ser Phe Ile Lys Glu Pro Gln Thr Lys Pro Ser Arg His  
35 40 45  
Gln Arg Thr Glu Asn Ile Lys Glu Arg Ser Leu Gln Ser Leu Ala  
50 55 60  
Lys Pro Lys Ser Gln Ala Pro Thr Arg Ala Arg Arg Thr Thr Ile

	65	70	75
Tyr Ala Glu Pro	Ala Pro Glu Asn Asn	Ala Leu Asn Thr Gln Thr	80 85 90
Gln Pro Lys Ala	His Thr Thr Gly Asp	Arg Gly Lys Glu Ala Asn	95 100 105
Gln Ala Pro Pro	Glu Glu Gln Asp Lys	Val Pro His Thr Ala Gln	110 115 120
Arg Ala Ala Trp	Lys Ser Pro Glu Lys	Glu Lys Thr Met Val Asn	125 130 135
Thr Leu Ser Pro	Arg Gly Gln Asp Ala	Gly Met Ala Ser Gly Arg	140 145 150
Thr Glu Ala Gln	Ser Trp Lys Ser Gln	Asp Thr Lys Thr Thr Gln	155 160 165
Gly Asn Gly Gly	Gln Thr Arg Lys Leu	Thr Ala Ser Arg Thr Val	170 175 180
Ser Glu Lys His	Gln Gly Lys Ala Ala	Thr Thr Ala Lys Thr Leu	185 190 195
Ile Pro Lys Ser	Gln His Arg Met Leu	Ala Pro Thr Gly Ala Val	200 205 210
Ser Thr Arg Thr	Arg Gln Lys Gly Val	Thr Thr Ala Val Ile Pro	215 220 225
Pro Lys Glu Lys	Lys Pro Gln Ala Thr	Pro Pro Pro Ala Pro Phe	230 235 240
Gln Ser Pro Thr	Thr Gln Arg Asn Gln	Arg Leu Lys Ala Ala Asn	245 250 255
Phe Lys Ser Glu	Pro Arg Trp Asp Phe	Glu Glu Lys Tyr Ser Phe	260 265 270
Glu Ile Gly Gly	Leu Gln Thr Thr Cys	Pro Asp Ser Val Lys Ile	275 280 285
Lys Ala Ser Lys	Ser Leu Trp Leu Gln	Lys Leu Phe Leu Pro Asn	290 295 300
Leu Thr Leu Phe	Leu Asp Ser Arg His	Phe Asn Gln Ser Glu Trp	305 310 315
Asp Arg Leu Glu	His Phe Ala Pro Pro	Phe Gly Phe Met Glu Leu	320 325 330
Asn Tyr Ser Leu	Val Gln Lys Val Val	Thr Arg Phe Pro Pro Val	335 340 345
Pro Gln Gln Gln	Leu Leu Leu Ala Ser	Leu Pro Ala Gly Ser Leu	350 355 360
Arg Cys Ile Thr	Cys Ala Val Val Gly	Asn Gly Gly Ile Leu Asn	365 370 375
Asn Ser His Met	Gly Gln Glu Ile Asp	Ser His Asp Tyr Val Phe	

380	385	390
Arg Leu Ser Gly Ala Leu Ile Lys Gly Tyr Glu Gln Asp Val Gly		
395	400	405
Thr Arg Thr Ser Phe Tyr Gly Phe Thr Ala Phe Ser Leu Thr Gln		
410	415	420
Ser Leu Leu Ile Leu Gly Asn Arg Gly Phe Lys Asn Val Pro Leu		
425	430	435
Gly Lys Asp Val Arg Tyr Leu His Phe Leu Glu Gly Thr Arg Asp		
440	445	450
Tyr Glu Trp Leu Glu Ala Leu Leu Met Asn Gln Thr Val Met Ser		
455	460	465
Lys Asn Leu Phe Trp Phe Arg His Arg Pro Gln Glu Ala Phe Arg		
470	475	480
Glu Ala Leu His Met Asp Arg Tyr Leu Leu Leu His Pro Asp Phe		
485	490	495
Leu Arg Tyr Met Lys Asn Arg Phe Leu Arg Ser Lys Thr Leu Asp		
500	505	510
Gly Ala His Trp Arg Ile Tyr Arg Pro Thr Thr Gly Ala Leu Leu		
515	520	525
Leu Leu Thr Ala Leu Gln Leu Cys Asp Gln Val Ser Ala Tyr Gly		
530	535	540
Phe Ile Thr Glu Gly His Glu Arg Phe Ser Asp His Tyr Tyr Asp		
545	550	555
Thr Ser Trp Lys Arg Leu Ile Phe Tyr Ile Asn His Asp Phe Lys		
560	565	570
Leu Glu Arg Glu Val Trp Lys Arg Leu His Asp Glu Gly Ile Ile		
575	580	585
Arg Leu Tyr Gln Arg Pro Gly Pro Gly Thr Ala Lys Ala Lys Asn		
590	595	600

<210> 348  
 <211> 496  
 <212> DNA  
 <213> Homo sapiens

<400> 348  
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 gaaggacaag tttctaaaac accttacagg ccctctttat tttagtccaa 150  
 agtgcagcaa acacttccat agactttatc acâacaccag agactgcacc 200  
 attcctgcat actataaaag atgcgccagg cttcttacct ggctggctgt 250  
 cagtccagtg tgcattggagg ataagtgagc agaccgtaca ggagcagcac 300  
 accaggagcc atgagaagtg ccttggaac caacagggaa acagaactat 350

ctttatacac atccccatc ggacaagaga tttatttttg cagacagact 400  
 cttccataag toctttgagt tttgtatggt gttgacagtt tgcagatata 450  
 tattcgataa atcagtgtac ttgacagtgt tatctgtcac ttattt 496

<210> 349  
 <211> 91  
 <212> PRT  
 <213> Homo sapiens

<400> 349  
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 Leu Gly Pro Ser Pro Glu Gln Arg Val Glu Ile Val Pro Arg Asp  
 20 25 30  
 Leu Arg Met Lys Asp Lys Phe Leu Lys His Leu Thr Gly Pro Leu  
 35 40 45  
 Tyr Phe Ser Pro Lys Cys Ser Lys His Phe His Arg Leu Tyr His  
 50 55 60  
 Asn Thr Arg Asp Cys Thr Ile Pro Ala Tyr Tyr Lys Arg Cys Ala  
 65 70 75  
 Arg Leu Leu Thr Arg Leu Ala Val Ser Pro Val Cys Met Glu Asp  
 80 85 90

Lys

<210> 350  
 <211> 1141  
 <212> DNA  
 <213> Homo sapiens

<400> 350  
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 gcggggctcc gccgggccc gccgctcacc gcaatcgctc tgttggtgct 150  
 gggggctccc ctggtgctgg ccggcgagga ctgcctgtgg tacctggacc 200  
 ggaatggctc ctggcatccg gggtttaact gcgagttctt caccttctgc 250  
 tgcgggacct gctaccatcg gtactgctgc agggacctga ccttgcttat 300  
 caccgagagg cagcagaagc actgcctggc cttcagcccc aagaccatag 350  
 caggcatcgc ctcagctgtg atcctctttg ttgctgtggt tgccaccacc 400  
 atctgctgct tcctctgttc ctgttgctac ctgtaccgcc ggcgccagca 450  
 gctccagagc ccatttgaag gccaggagat tccaatgaca ggcattccag 500  
 tgcagccagt ataccatac ccccaggacc ccaaagctgg ccctgcaccc 550  
 ccacagcctg gcttcatgta cccacctagt ggtcctgctc cccaatatcc 600

actctaccca gctgggcccc cagtctacaa ccctgcagct cctcctccct 650  
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<210> 351  
 <211> 197  
 <212> PRT  
 <213> Homo sapiens

<400> 351  
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                   20                  25                  30  
 Cys Leu Trp Tyr Leu Asp Arg Asn Gly Ser Trp His Pro Gly Phe  
                   35                  40                  45  
 Asn Cys Glu Phe Phe Thr Phe Cys Cys Gly Thr Cys Tyr His Arg  
                   50                  55                  60  
 Tyr Cys Cys Arg Asp Leu Thr Leu Leu Ile Thr Glu Arg Gln Gln  
                   65                  70                  75  
 Lys His Cys Leu Ala Phe Ser Pro Lys Thr Ile Ala Gly Ile Ala  
                   80                  85                  90  
 Ser Ala Val Ile Leu Phe Val Ala Val Val Ala Thr Thr Ile Cys  
                   95                  100                  105  
 Cys Phe Leu Cys Ser Cys Cys Tyr Leu Tyr Arg Arg Arg Gln Gln  
                   110                  115                  120  
 Leu Gln Ser Pro Phe Glu Gly Gln Glu Ile Pro Met Thr Gly Ile  
                   125                  130                  135  
 Pro Val Gln Pro Val Tyr Pro Tyr Pro Gln Asp Pro Lys Ala Gly  
                   140                  145                  150  
 Pro Ala Pro Pro Gln Pro Gly Phe Met Tyr Pro Pro Ser Gly Pro  
                   155                  160                  165  
 Ala Pro Gln Tyr Pro Leu Tyr Pro Ala Gly Pro Pro Val Tyr Asn  
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Pro Ala Ala Pro Pro Pro Tyr Met Pro Pro Gln Pro Ser Tyr Pro  
 185 190 195

Gly Ala

<210> 352  
 <211> 3226  
 <212> DNA  
 <213> Homo sapiens

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 ctcaaattggt cccttgcaac catgtcattt ctactttcct cactgttggc 150  
 tctcttaact gtgtccactc cttcatggtg tcagagcact gaagcatctc 200  
 caaaacgtag tgatgggaca ccatttcctt ggaataaaat acgacttcct 250  
 gagtacgtca tcccagttca ttatgatctc ttgatccatg caaaccttac 300  
 cacgctgacc ttctggggaa ccacgaaagt agaaatcaca gccagtcagc 350  
 ccaccagcac catcatcctg catagtcacc acctgcagat atctagggcc 400  
 accctcagga agggagctgg agagaggcta tcggaagaac ccctgcaggt 450  
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 tccttgtcgg gctcccgtac acagttgtca ttcactatgc tggcaatctt 550  
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 ggaactgagg atactagcat caacacaatt tgaaccact gcagctagaa 650  
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 ctgtgaagat gagcacctat ctggtggcct tcatcatctt agattttgag 850  
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 gccagacaag ataaatcaag cagattatgc actggatgct gcggtgactc 950  
 ttctagaatt ttatgaggat tatttcagca taccgtatcc cctacccaaa 1000  
 caagatcttg ctgctattcc cgactttcag tctggtgcta tggaaaactg 1050  
 gggactgaca acatatagag aatctgctct gttgtttgat gcagaaaagt 1100  
 cttctgcac cagtaagctt ggcatcacag tgactgtggc ccatgaactg 1150  
 gccaccagt ggtttgggaa cctggtcact atggaatggt ggaatgatct 1200  
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 tgacctatcc tgaactgaaa gttggagatt atttcttttg caaatgtttt 1300

gacgcaatgg aggtagatgc tttaaattcc tcacaccctg tgtctacacc 1350  
 tgtggaaaat cctgctcaga tccgggagat gtttgatgat gtttcttatg 1400  
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 gcatttaaaa gtggtattgt acagtatctc cagaagcata gctataaaaa 1500  
 taaaaaaac gaggacctgt gggatagtat ggcaagtatt tgccctacag 1550  
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 ggctattaca ttgtgcatta cgaggatgat ggatgggact ctttgactgg 1950  
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 cgtgtttcaa ggtttgaatg agctgattcc tatgtataag ttaatggaga 2150  
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 ctgctaaggg acctcattga taagcagaca tggacagacg agggctcagt 2250  
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 ttggcaggaa ccagtagga taccactgg cctggcaatt tctgaggaaa 2650  
 aactggaaca aacttgtaca aaagtttgaa cttggctcat cttccatagc 2700  
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 aagaggtaaa aggattcttc agctctttga aagaaaatgg ttctcagctc 2800  
 cgttgtgtcc aacagacaat tgaaaccatt gaagaaaaca tcggttgat 2850  
 ggataagaat tttgataaaa tcagagtgtg gctgcaaagt gaaaagcttg 2900

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 aactggagat acttttttcc cttcaactca ttttttgact atccctgtga 3050  
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 tcgctacat gtgttttgtt catcacaggt gttgccctgc aacgtaaacc 3150  
 caagtgttgg gttccctgcc acagaagaat aaagtacctt attcttctca 3200  
 aaaaaaaaaa aaaaaaaaaa aaaaaa 3226

<210> 353  
 <211> 941  
 <212> PRT  
 <213> Homo sapiens

<400> 353

Met	Val	Phe	Leu	Pro	Leu	Lys	Trp	Ser	Leu	Ala	Thr	Met	Ser	Phe	1	5	10	15
Leu	Leu	Ser	Ser	Leu	Leu	Ala	Leu	Leu	Thr	Val	Ser	Thr	Pro	Ser	20	25	30	
Trp	Cys	Gln	Ser	Thr	Glu	Ala	Ser	Pro	Lys	Arg	Ser	Asp	Gly	Thr	35	40	45	
Pro	Phe	Pro	Trp	Asn	Lys	Ile	Arg	Leu	Pro	Glu	Tyr	Val	Ile	Pro	50	55	60	
Val	His	Tyr	Asp	Leu	Leu	Ile	His	Ala	Asn	Leu	Thr	Thr	Leu	Thr	65	70	75	
Phe	Trp	Gly	Thr	Thr	Lys	Val	Glu	Ile	Thr	Ala	Ser	Gln	Pro	Thr	80	85	90	
Ser	Thr	Ile	Ile	Leu	His	Ser	His	His	Leu	Gln	Ile	Ser	Arg	Ala	95	100	105	
Thr	Leu	Arg	Lys	Gly	Ala	Gly	Glu	Arg	Leu	Ser	Glu	Glu	Pro	Leu	110	115	120	
Gln	Val	Leu	Glu	His	Pro	Pro	Gln	Glu	Gln	Ile	Ala	Leu	Leu	Ala	125	130	135	
Pro	Glu	Pro	Leu	Leu	Val	Gly	Leu	Pro	Tyr	Thr	Val	Val	Ile	His	140	145	150	
Tyr	Ala	Gly	Asn	Leu	Ser	Glu	Thr	Phe	His	Gly	Phe	Tyr	Lys	Ser	155	160	165	
Thr	Tyr	Arg	Thr	Lys	Glu	Gly	Glu	Leu	Arg	Ile	Leu	Ala	Ser	Thr	170	175	180	
Gln	Phe	Glu	Pro	Thr	Ala	Ala	Arg	Met	Ala	Phe	Pro	Cys	Phe	Asp	185	190	195	
Glu	Pro	Ala	Phe	Lys	Ala	Ser	Phe	Ser	Ile	Lys	Ile	Arg	Arg	Glu	200	205	210	
Pro	Arg	His	Leu	Ala	Ile	Ser	Asn	Met	Pro	Leu	Val	Lys	Ser	Val				



	215		220		225
Thr Val Ala Glu Gly	Leu Ile Glu Asp	His Phe Asp Val Thr	Val		
230		235	240		
Lys Met Ser Thr Tyr	Leu Val Ala Phe	Ile Ile Ser Asp Phe	Glu		
245		250	255		
Ser Val Ser Lys Ile	Thr Lys Ser Gly	Val Lys Val Ser Val	Tyr		
260		265	270		
Ala Val Pro Asp Lys	Ile Asn Gln Ala	Asp Tyr Ala Leu Asp	Ala		
275		280	285		
Ala Val Thr Leu Leu	Glu Phe Tyr Glu	Asp Tyr Phe Ser Ile	Pro		
290		295	300		
Tyr Pro Leu Pro Lys	Gln Asp Leu Ala	Ala Ile Pro Asp Phe	Gln		
305		310	315		
Ser Gly Ala Met Glu	Asn Trp Gly Leu	Thr Thr Tyr Arg Glu	Ser		
320		325	330		
Ala Leu Leu Phe Asp	Ala Glu Lys Ser	Ser Ala Ser Ser Lys	Leu		
335		340	345		
Gly Ile Thr Val Thr	Val Ala His Glu	Leu Ala His Gln Trp	Phe		
350		355	360		
Gly Asn Leu Val Thr	Met Glu Trp Trp	Asn Asp Leu Trp Leu	Asn		
365		370	375		
Glu Gly Phe Ala Lys	Phe Met Glu Phe	Val Ser Val Ser Val	Thr		
380		385	390		
His Pro Glu Leu Lys	Val Gly Asp Tyr	Phe Phe Gly Lys Cys	Phe		
395		400	405		
Asp Ala Met Glu Val	Asp Ala Leu Asn	Ser Ser His Pro Val	Ser		
410		415	420		
Thr Pro Val Glu Asn	Pro Ala Gln Ile	Arg Glu Met Phe Asp	Asp		
425		430	435		
Val Ser Tyr Asp Lys	Gly Ala Cys Ile	Leu Asn Met Leu Arg	Glu		
440		445	450		
Tyr Leu Ser Ala Asp	Ala Phe Lys Ser	Gly Ile Val Gln Tyr	Leu		
455		460	465		
Gln Lys His Ser Tyr	Lys Asn Thr Lys	Asn Glu Asp Leu Trp	Asp		
470		475	480		
Ser Met Ala Ser Ile	Cys Pro Thr Asp	Gly Val Lys Gly Met	Asp		
485		490	495		
Gly Phe Cys Ser Arg	Ser Gln His Ser	Ser Ser Ser Ser His	Trp		
500		505	510		
His Gln Glu Gly Val	Asp Val Lys Thr	Met Met Asn Thr Trp	Thr		
515		520	525		
Leu Gln Arg Gly Phe	Pro Leu Ile Thr	Ile Thr Val Arg Gly	Arg		

530										535					540				
Asn	Val	His	Met	Lys	Gln	Glu	His	Tyr	Met	Lys	Gly	Ser	Asp	Gly					
				545					550					555					
Ala	Pro	Asp	Thr	Gly	Tyr	Leu	Trp	His	Val	Pro	Leu	Thr	Phe	Ile					
				560					565					570					
Thr	Ser	Lys	Ser	Asn	Met	Val	His	Arg	Phe	Leu	Leu	Lys	Thr	Lys					
				575					580					585					
Thr	Asp	Val	Leu	Ile	Leu	Pro	Glu	Glu	Val	Glu	Trp	Ile	Lys	Phe					
				590					595					600					
Asn	Val	Gly	Met	Asn	Gly	Tyr	Tyr	Ile	Val	His	Tyr	Glu	Asp	Asp					
				605					610					615					
Gly	Trp	Asp	Ser	Leu	Thr	Gly	Leu	Leu	Lys	Gly	Thr	His	Thr	Ala					
				620					625					630					
Val	Ser	Ser	Asn	Asp	Arg	Ala	Ser	Leu	Ile	Asn	Asn	Ala	Phe	Gln					
				635					640					645					
Leu	Val	Ser	Ile	Gly	Lys	Leu	Ser	Ile	Glu	Lys	Ala	Leu	Asp	Leu					
				650					655					660					
Ser	Leu	Tyr	Leu	Lys	His	Glu	Thr	Glu	Ile	Met	Pro	Val	Phe	Gln					
				665					670					675					
Gly	Leu	Asn	Glu	Leu	Ile	Pro	Met	Tyr	Lys	Leu	Met	Glu	Lys	Arg					
				680					685					690					
Asp	Met	Asn	Glu	Val	Glu	Thr	Gln	Phe	Lys	Ala	Phe	Leu	Ile	Arg					
				695					700					705					
Leu	Leu	Arg	Asp	Leu	Ile	Asp	Lys	Gln	Thr	Trp	Thr	Asp	Glu	Gly					
				710					715					720					
Ser	Val	Ser	Glu	Gln	Met	Leu	Arg	Ser	Glu	Leu	Leu	Leu	Leu	Ala					
				725					730					735					
Cys	Val	His	Asn	Tyr	Gln	Pro	Cys	Val	Gln	Arg	Ala	Glu	Gly	Tyr					
				740					745					750					
Phe	Arg	Lys	Trp	Lys	Glu	Ser	Asn	Gly	Asn	Leu	Ser	Leu	Pro	Val					
				755					760					765					
Asp	Val	Thr	Leu	Ala	Val	Phe	Ala	Val	Gly	Ala	Gln	Ser	Thr	Glu					
				770					775					780					
Gly	Trp	Asp	Phe	Leu	Tyr	Ser	Lys	Tyr	Gln	Phe	Ser	Leu	Ser	Ser					
				785					790					795					
Thr	Glu	Lys	Ser	Gln	Ile	Glu	Phe	Ala	Leu	Cys	Arg	Thr	Gln	Asn					
				800					805					810					
Lys	Glu	Lys	Leu	Gln	Trp	Leu	Leu	Asp	Glu	Ser	Phe	Lys	Gly	Asp					
				815					820					825					
Lys	Ile	Lys	Thr	Gln	Glu	Phe	Pro	Gln	Ile	Leu	Thr	Leu	Ile	Gly					
				830					835					840					
Arg	Asn	Pro	Val	Gly	Tyr	Pro	Leu	Ala	Trp	Gln	Phe	Leu	Arg	Lys					

	845		850		855
Asn Trp Asn Lys	Leu Val Gln Lys Phe	Glu Leu Gly Ser Ser	Ser		
	860		865		870
Ile Ala His Met	Val Met Gly Thr Thr	Asn Gln Phe Ser Thr	Arg		
	875		880		885
Thr Arg Leu Glu	Glu Val Lys Gly Phe	Phe Ser Ser Leu Lys	Glu		
	890		895		900
Asn Gly Ser Gln	Leu Arg Cys Val Gln	Gln Thr Ile Glu Thr	Ile		
	905		910		915
Glu Glu Asn Ile	Gly Trp Met Asp Lys	Asn Phe Asp Lys Ile	Arg		
	920		925		930
Val Trp Leu Gln	Ser Glu Lys Leu Glu	Arg Met			
	935		940		

<210> 354  
 <211> 1587  
 <212> DNA  
 <213> Homo sapiens

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 gttcagcatg tgtggaaggt gtccgacctt ccccggaat ggacccctaa 150  
 gaacaccagc tgcgacagcg gcttgggggt ccaggacacg ttgatgctca 200  
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 aatggccttg gacaccagat tctttcccat tctgtccatg aatcatcttc 1450  
 cccacacaca atcattcata tctactcacc taacagcaac actggggaga 1500  
 gcctggagca tccggacttg ccctatggga gaggggaagc tggaggagtg 1550  
 gctgcatgta tctgataata cagaccctgt cctttca 1587

<210> 355  
 <211> 437  
 <212> PRT  
 <213> Homo sapiens

<400> 355  
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 Leu Pro Gly Val Gln Ala Leu Leu Cys Gln Phe Gly Thr Val Gln  
 20 25 30  
 His Val Trp Lys Val Ser Asp Leu Pro Arg Gln Trp Thr Pro Lys  
 35 40 45  
 Asn Thr Ser Cys Asp Ser Gly Leu Gly Cys Gln Asp Thr Leu Met  
 50 55 60  
 Leu Ile Glu Ser Gly Pro Gln Val Ser Leu Val Leu Ser Lys Gly  
 65 70 75  
 Cys Thr Glu Ala Lys Asp Gln Glu Pro Arg Val Thr Glu His Arg  
 80 85 90  
 Met Gly Pro Gly Leu Ser Leu Ile Ser Tyr Thr Phe Val Cys Arg  
 95 100 105  
 Gln Glu Asp Phe Cys Asn Asn Leu Val Asn Ser Leu Pro Leu Trp  
 110 115 120  
 Ala Pro Gln Pro Pro Ala Asp Pro Gly Ser Leu Arg Cys Pro Val  
 125 130 135  
 Cys Leu Ser Met Glu Gly Cys Leu Glu Gly Thr Thr Glu Glu Ile  
 140 145 150  
 Cys Pro Lys Gly Thr Thr His Cys Tyr Asp Gly Leu Leu Arg Leu

	155		160		165
Arg Gly Gly Gly	Ile Phe Ser Asn Leu	Arg Val Gln Gly Cys	Met		
	170	175	180		
Pro Gln Pro Gly	Cys Asn Leu Leu Asn	Gly Thr Gln Glu Ile	Gly		
	185	190	195		
Pro Val Gly Met	Thr Glu Asn Cys Asn	Arg Lys Asp Phe Leu	Thr		
	200	205	210		
Cys His Arg Gly	Thr Thr Ile Met Thr	His Gly Asn Leu Ala	Gln		
	215	220	225		
Glu Pro Thr Asp	Trp Thr Thr Ser Asn	Thr Glu Met Cys Glu	Val		
	230	235	240		
Gly Gln Val Cys	Gln Glu Thr Leu Leu	Leu Ile Asp Val Gly	Leu		
	245	250	255		
Thr Ser Thr Leu	Val Gly Thr Lys Gly	Cys Ser Thr Val Gly	Ala		
	260	265	270		
Gln Asn Ser Gln	Lys Thr Thr Ile His	Ser Ala Pro Pro Gly	Val		
	275	280	285		
Leu Val Ala Ser	Tyr Thr His Phe Cys	Ser Ser Asp Leu Cys	Asn		
	290	295	300		
Ser Ala Ser Ser	Ser Ser Val Leu Leu	Asn Ser Leu Pro Pro	Gln		
	305	310	315		
Ala Ala Pro Val	Pro Gly Asp Arg Gln	Cys Pro Thr Cys Val	Gln		
	320	325	330		
Pro Leu Gly Thr	Cys Ser Ser Gly Ser	Pro Arg Met Thr Cys	Pro		
	335	340	345		
Arg Gly Ala Thr	His Cys Tyr Asp Gly	Tyr Ile His Leu Ser	Gly		
	350	355	360		
Gly Gly Leu Ser	Thr Lys Met Ser Ile	Gln Gly Cys Val Ala	Gln		
	365	370	375		
Pro Ser Ser Phe	Leu Leu Asn His Thr	Arg Gln Ile Gly Ile	Phe		
	380	385	390		
Ser Ala Arg Glu	Lys Arg Asp Val Gln	Pro Pro Ala Ser Gln	His		
	395	400	405		
Glu Gly Gly Gly	Ala Glu Gly Leu Glu	Ser Leu Thr Trp Gly	Val		
	410	415	420		
Gly Leu Ala Leu	Ala Pro Ala Leu Trp	Trp Gly Val Val Cys	Pro		
	425	430	435		

Ser Cys

- <210> 356
- <211> 1238
- <212> DNA
- <213> Homo sapiens

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<400> 356
gcgacgggca ggacgccccg ttgcctagc gcgtgctcag gagttggtgt 50
cctgcctgcg ctcaggatga gggggaatct ggccctggtg ggcgttctaa 100
tcagcctggc cttcctgtca ctgctgccat ctggacatcc tcagccggct 150
ggcgatgacg cctgctctgt gcagatcctc gtccctggcc tcaaagggga 200
tgcgggagag aaggagaca aaggcgcccc cggacggcct ggaagagtcg 250
gccccacggg agaaaaagga gacatggggg acaaaggaca gaaaggcagt 300
gtgggtcgtc atggaaaaat tgggtccatt ggctctaaag gtgagaaagg 350
agattccggt gacataggac cccctggtcc taatggagaa ccaggcctcc 400
catgtgagtg cagccagctg cgcaaggcca tcggggagat ggacaaccag 450
gtctctcagc tgaccagcga gctcaagttc atcaagaatg ctgtcgccgg 500
tgtgcgcgag acggagagca agatctacct gctggtgaag gaggagaagc 550
gctacgcgga cgcccagctg tcctgccagg gccgcggggg cacgctgagc 600
atgcccagg acgaggctgc caatggcctg atggccgcat acctggcgca 650
agccggcctg gcccggtgtc tcctcgccat caacgacctg gagaaggagg 700
gcgccttcgt gtactctgac cactcccca tcgggacctt caacaagtgg 750
cgcagcggtg agcccaacaa tgcctacgac gaggaggact gcgtggagat 800
ggtggcctcg ggcggtgga acgacgtggc ctgccacacc accatgtact 850
tcatgtgtga gtttgacaag gagaacatgt gaggcctcagg ctggggctgc 900
ccattggggg ccccatgt cctgcaggg ttggcaggga cagagcccag 950
accatggtgc cagccaggga gctgtccctc tgtgaagggt ggaggctcac 1000
tgagtagagg gctgttgtct aaactgagaa aatggcctat gcttaagagg 1050
aaaatgaaag tgttcctggg gtgctgtctc tgaagaagca gagtttcatt 1100
acctgtattg tagcccaat gtcattatgt aattattacc cagaattgct 1150
cttcataaaa gcttgtgcct ttgtccaagc tatacaataa aatctttaag 1200
tagtgagta gttaagtcca aaaaaaaaaa aaaaaaaaaa 1238

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<210> 357
<211> 271
<212> PRT
<213> Homo sapiens

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<400> 357
Met Arg Gly Asn Leu Ala Leu Val Gly Val Leu Ile Ser Leu Ala
  1             5             10             15
Phe Leu Ser Leu Leu Pro Ser Gly His Pro Gln Pro Ala Gly Asp
          20             25             30

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Asp	Ala	Cys	Ser	Val	Gln	Ile	Leu	Val	Pro	Gly	Leu	Lys	Gly	Asp	
				35					40					45	
Ala	Gly	Glu	Lys	Gly	Asp	Lys	Gly	Ala	Pro	Gly	Arg	Pro	Gly	Arg	
				50					55					60	
Val	Gly	Pro	Thr	Gly	Glu	Lys	Gly	Asp	Met	Gly	Asp	Lys	Gly	Gln	
				65					70					75	
Lys	Gly	Ser	Val	Gly	Arg	His	Gly	Lys	Ile	Gly	Pro	Ile	Gly	Ser	
				80					85					90	
Lys	Gly	Glu	Lys	Gly	Asp	Ser	Gly	Asp	Ile	Gly	Pro	Pro	Gly	Pro	
				95					100					105	
Asn	Gly	Glu	Pro	Gly	Leu	Pro	Cys	Glu	Cys	Ser	Gln	Leu	Arg	Lys	
				110					115					120	
Ala	Ile	Gly	Glu	Met	Asp	Asn	Gln	Val	Ser	Gln	Leu	Thr	Ser	Glu	
				125					130					135	
Leu	Lys	Phe	Ile	Lys	Asn	Ala	Val	Ala	Gly	Val	Arg	Glu	Thr	Glu	
				140					145					150	
Ser	Lys	Ile	Tyr	Leu	Leu	Val	Lys	Glu	Glu	Lys	Arg	Tyr	Ala	Asp	
				155					160					165	
Ala	Gln	Leu	Ser	Cys	Gln	Gly	Arg	Gly	Gly	Thr	Leu	Ser	Met	Pro	
				170					175					180	
Lys	Asp	Glu	Ala	Ala	Asn	Gly	Leu	Met	Ala	Ala	Tyr	Leu	Ala	Gln	
				185					190					195	
Ala	Gly	Leu	Ala	Arg	Val	Phe	Ile	Gly	Ile	Asn	Asp	Leu	Glu	Lys	
				200					205					210	
Glu	Gly	Ala	Phe	Val	Tyr	Ser	Asp	His	Ser	Pro	Met	Arg	Thr	Phe	
				215					220					225	
Asn	Lys	Trp	Arg	Ser	Gly	Glu	Pro	Asn	Asn	Ala	Tyr	Asp	Glu	Glu	
				230					235					240	
Asp	Cys	Val	Glu	Met	Val	Ala	Ser	Gly	Gly	Trp	Asn	Asp	Val	Ala	
				245					250					255	
Cys	His	Thr	Thr	Met	Tyr	Phe	Met	Cys	Glu	Phe	Asp	Lys	Glu	Asn	
				260					265					270	

Met

<210> 358  
 <211> 972  
 <212> DNA  
 <213> Homo sapiens

<400> 358  
 agtgactgca gccttcctag atccccctoca ctcggtttct ctctttgcag 50  
 gagcaccggc agcaccagtg tgtgagggga gcaggcagcg gtcctagcca 100  
 gttccttgat cctgccagac caccagccc ccggcacaga gctgctccac 150

aggcaccatg aggatcatgc tgctattcac agccatcctg gccttcagcc 200  
tagctcagag ctttggggct gtctgtaagg agccacagga ggaggtgggt 250  
cctggcgggg gccgcagcaa gagggatcca gatctctacc agctgctcca 300  
gagactcttc aaaagccact catctctgga gggattgctc aaagccctga 350  
gccaggctag cacagatcct aaggaatcaa catctcccga gaaacgtgac 400  
atgcatgact tctttgtggg acttatgggc aagaggagcg tccagccaga 450  
gggaaagaca ggacctttct taccttcagt gagggttcct cggccccctc 500  
atcccaatca gcttgatcc acaggaaagt cttccctggg aacagaggag 550  
cagagacctt tataagactc tcctacggat gtgaatcaag agaacgtccc 600  
cagctttggc atcctcaagt atcccccgag agcagaatag gtactccact 650  
tccggactcc tggactgcat taggaagacc tctttccctg tcccaatccc 700  
caggtgcgca cgctcctgtt accctttctc ttccctgttc ttgtaacatt 750  
cttgtgcttt gactccttct ccatcttttc tacctgaccc tgggtgtggaa 800  
actgcatagt gaatatcccc aacccaatg ggcattgact gtagaatacc 850  
ctagagttcc tgtagtgtcc tacattaaaa atataatgtc tctctctatt 900  
cctcaacaat aaaggatttt tgcatatgaa aaaaaaaaaa aaaaaaaaaa 950  
aaaaaaaaaa aaaaaaaaaa aa 972

<210> 359  
<211> 135  
<212> PRT  
<213> Homo sapiens

<400> 359  
Met Arg Ile Met Leu Leu Phe Thr Ala Ile Leu Ala Phe Ser Leu  
1 5 10 15  
Ala Gln Ser Phe Gly Ala Val Cys Lys Glu Pro Gln Glu Glu Val  
20 25 30  
Val Pro Gly Gly Gly Arg Ser Lys Arg Asp Pro Asp Leu Tyr Gln  
35 40 45  
Leu Leu Gln Arg Leu Phe Lys Ser His Ser Ser Leu Glu Gly Leu  
50 55 60  
Leu Lys Ala Leu Ser Gln Ala Ser Thr Asp Pro Lys Glu Ser Thr  
65 70 75  
Ser Pro Glu Lys Arg Asp Met His Asp Phe Phe Val Gly Leu Met  
80 85 90  
Gly Lys Arg Ser Val Gln Pro Glu Gly Lys Thr Gly Pro Phe Leu  
95 100 105  
Pro Ser Val Arg Val Pro Arg Pro Leu His Pro Asn Gln Leu Gly  
110 115 120



Ser	Thr	Gly	Lys	Ser	Ser	Leu	Gly	Thr	Glu	Glu	Gln	Arg	Pro	Leu
				125					130					135

<210> 360  
 <211> 1738  
 <212> DNA  
 <213> Homo sapiens

<400> 360  
 gggcgtctcc ggctgctcct attgagctgt ctgctcgtg tgcccgtgt 50  
 gcctgctgtg cccgcgtgt cgccgtgt accgcgtgt ctggacgcgg 100  
 gagacgccag cgagctgggt attggagccc tgcggagagc tcaagcgcgc 150  
 agctctgccc caggagccca ggctgccccg tgagtcccat agttgctgca 200  
 ggagtggagc catgagctgc gtcctgggtg gtgtcatccc cttggggctg 250  
 ctgttctctg tctgcggatc ccaaggtac ctctgccc acgtcactct 300  
 cttagaggag ctgctcagca aataccagca caacgagtct cactcccggg 350  
 tccgcagagc catccccagg gaggacaagg aggagatcct catgctgcac 400  
 aacaagcttc ggggccaggt gcagcctcag gcctccaaca tggagtacat 450  
 ggtgagcgcc ggctccggcc gcagaggctg gcaccggggg tggggcctgg 500  
 gccaccagcc tgctctgttc ccagccagc tctgttcccc agccagtgcg 550  
 tgtgatggct ggctcagggt ctctctggc aggggaggat cccggctctg 600  
 ttctgttttg tttgtttgtt ttgagacagg gtctcactct gccactgacg 650  
 ctggagtgca atggcacaat cgtcatgccc tgaacacctta gactcccggg 700  
 gttaagcgat cctgcttcag cctcccaagt agctggaact acaggcatgc 750  
 accatggtgc ccagctagat tttaaattt ttgtggagat gggggtcttg 800  
 ctacgttgcc caggctggtc ttgaactcct aggtcaagc aatcctcctg 850  
 cctcagcctc tcaaagtgt aggtattatag gcatgagtca ccctgtctgg 900  
 ctctggctct gttcttaaca ttctgcaaaa acaacacacg tgggttccct 950  
 gtgcagagcc tgccctggtg ccttcatgtc actcttggtg gctccactgg 1000  
 gaacacagct ctcagccttt ccaacctgga ggcagagtgg ggagggggcc 1050  
 agggctgggc tttgctgatg ctgatctcag ctgtgccaca cgctagctgc 1100  
 accaccctga cttctcctta gcccggtgta gcctcacttt ccacttgag 1150  
 agtccttcct cgcgtgggtg ccatgactgt gagataagtc gaggctgtga 1200  
 agggcccggc acagaactgac ctgcctcccc aaccctagg ctttgctaac 1250  
 cgggaaagga gctaacggtg acagaagaca gccaaagtca accctcccgg 1300  
 gtgattgtga tgggtgttcc aggtgtggtt gggcgatgct gctacttgac 1350

cccaagctcc agtgtggaaa cttccttcct ggctgggttt ccagaactac 1400  
 agaggaatgg accacagtct tccaggggtcc ctcctcgtcc accaaccggg 1450  
 agcctccacc ttggccatcc gtcagctatg aatggctttt taaacaaacc 1500  
 cacgtcccag cctgggtaac atggtaaagc cccgtctcta caaaaaaatc 1550  
 caagttagcc gggcatgggt gtgcgcacct gtagtcccag ctgcagtggg 1600  
 actgaggtgg aggtggaggt ggggggtggg agctgaggaa ggaggatcgc 1650  
 ttgagcctgg gaagtcgagg ctgcagtgag ctgagattgc accactgcac 1700  
 tccagcctgg gtgacagagc aagaccctgt ctcaaaaa 1738

<210> 361  
 <211> 159  
 <212> PRT  
 <213> Homo sapiens

<400> 361  
 Met Ser Cys Val Leu Gly Gly Val Ile Pro Leu Gly Leu Leu Phe  
 1 5 10 15  
 Leu Val Cys Gly Ser Gln Gly Tyr Leu Leu Pro Asn Val Thr Leu  
 20 25 30  
 Leu Glu Glu Leu Leu Ser Lys Tyr Gln His Asn Glu Ser His Ser  
 35 40 45  
 Arg Val Arg Arg Ala Ile Pro Arg Glu Asp Lys Glu Glu Ile Leu  
 50 55 60  
 Met Leu His Asn Lys Leu Arg Gly Gln Val Gln Pro Gln Ala Ser  
 65 70 75  
 Asn Met Glu Tyr Met Val Ser Ala Gly Ser Gly Arg Arg Gly Trp  
 80 85 90  
 His Arg Gly Trp Gly Leu Gly His Gln Pro Ala Leu Phe Pro Ser  
 95 100 105  
 Gln Leu Cys Ser Pro Ala Ser Ala Cys Asp Gly Trp Leu Arg Val  
 110 115 120  
 Ser Ser Gly Arg Gly Gly Ser Arg Leu Cys Ser Val Leu Phe Val  
 125 130 135  
 Cys Phe Glu Thr Gly Ser His Ser Ala Thr Asp Ala Gly Val Gln  
 140 145 150  
 Trp His Asn Arg His Ala Leu Lys Pro  
 155

<210> 362  
 <211> 422  
 <212> DNA  
 <213> Homo sapiens

<400> 362  
 aaggagagg caccgggact tcagtgtctc ctccatccca ggagcgcagt 50

ggccactatg gggctctgggc tgccccttgt cctcctcttg accctccttg 100  
gcagctcaca tggaacaggg ccgggtatga ctttgcaact gaagctgaag 150  
gagtcttttc tgacaaattc ctcctatgag tccagcttcc tggaattgct 200  
tgaaaagctc tgcctcctcc tccatctccc ttcagggacc agcgtcaccc 250  
tccacatgc aagatctcaa caccatgttg tctgcaacac atgacagcca 300  
ttgaagcctg tgtccttctt ggcccgggct tttgggcccgg ggatgcagga 350  
ggcaggcccc gaccctgtct ttcagcaggc cccaccctc ctgagtggca 400  
ataaataaaa ttcggtatgc tg 422

<210> 363  
<211> 78  
<212> PRT  
<213> Homo sapiens

<400> 363  
Met Gly Ser Gly Leu Pro Leu Val Leu Leu Leu Thr Leu Leu Gly  
1 5 10 15  
Ser Ser His Gly Thr Gly Pro Gly Met Thr Leu Gln Leu Lys Leu  
20 25 30  
Lys Glu Ser Phe Leu Thr Asn Ser Ser Tyr Glu Ser Ser Phe Leu  
35 40 45  
Glu Leu Leu Glu Lys Leu Cys Leu Leu Leu His Leu Pro Ser Gly  
50 55 60  
Thr Ser Val Thr Leu His His Ala Arg Ser Gln His His Val Val  
65 70 75

Cys Asn Thr

<210> 364  
<211> 826  
<212> DNA  
<213> Homo sapiens

<400> 364  
aattgtatct gtgtaatggt aaaacaaacg aaataaaata gaaggaaaaa 50  
ctttctgagt ttcaaaaaca acagactagt actctaaaga actctttaaa 100  
acaattaact gttaggattg cagttatgat tggatattat ttaattctgt 150  
ttctgatgtg gggttcctcc actgtgttct gtgtgctatt aatatttacc 200  
attgcagaag cttcattcag tgttgaaaat gaatgcttag tggatctgtg 250  
cctcttacgc atatgttaca aattatctgg agttcctaata caatgcagag 300  
ttcccctccc ctccgattgt tctaaataat tgaaagatgt ctgctgtgga 350  
aaaaggcatg tatttaaatac tgtatgattc tcaaccatct ttagttggga 400  
aaggctccttg aaagccaatg gaaatacttt ttttttttct tggcactaat 450

caagtgagtg ttaccttttc acttagtagg atgtgttggt acgctagtaa 500  
aatagaaacc tgtgtttatt ctcagggtatt ttagaaacaa cagccatcat 550  
tttattttat gtgtgtgttc ttggctgtat tcataaatta tatattttgg 600  
gctatcaaatt attacttcat tcaatataaa taacaatagt agaagttggt 650  
tacttagata tgctttctag ttgcattttc tcagcctatg taagactact 700  
ttgttgtaat agcctttgaa atttacagta ctgtctctct actatcttca 750  
gattacttga ttcaaataaa ccaattatgt ttgtaattga tattaataaa 800  
accagaataa aagttcatat ctaccc 826

<210> 365  
<211> 67  
<212> PRT  
<213> Homo sapiens

<400> 365  
Met Ile Gly Tyr Tyr Leu Ile Leu Phe Leu Met Trp Gly Ser Ser  
1 5 10 15  
Thr Val Phe Cys Val Leu Leu Ile Phe Thr Ile Ala Glu Ala Ser  
20 25 30  
Phe Ser Val Glu Asn Glu Cys Leu Val Asp Leu Cys Leu Leu Arg  
35 40 45  
Ile Cys Tyr Lys Leu Ser Gly Val Pro Asn Gln Cys Arg Val Pro  
50 55 60  
Leu Pro Ser Asp Cys Ser Lys  
65

<210> 366  
<211> 2475  
<212> DNA  
<213> Homo sapiens

<400> 366  
gaggatttgc cacagcagcg gatagagcag gagagcacca ccggagccct 50  
tgagacatcc ttgagaagag ccacagcata agagactgcc ctgcttggtg 100  
ttttgcagga tgatggtggc ccttcgagga gcttctgcat tgctggttct 150  
gttccttgca gcttttctgc cccgcgcgca gtgtaccag gaccagcca 200  
tggtgcatta catctaccag cgctttcgag tcttgagca agggctggaa 250  
aaatgtaccc aagcaacgag ggcatacatt caagaattcc aagagttctc 300  
aaaaaatata tctgtcatgc tgggaagatg tcagacctac acaagtgagt 350  
acaagagtgc agtgggtaac ttggcactga gagttgaacg tgcccaacgg 400  
gagattgact acatacaata ccttcgagag gctgacgagt gcatcgtatc 450  
agaggacaag aactggcag aaatgttgct ccaagaagct gaagaagaga 500

aaaagatccg gactctgctg aatgcaagct gtgacaacat gctgatgggc 550  
 ataaagtctt tgaaaatagt gaagaagatg atggacacac atggctcttg 600  
 gatgaaagat gctgtctata actctccaaa ggtgtactta ttaattggat 650  
 ccagaaacaa cactgtttgg gaatttgcaa acatacgggc attcatggag 700  
 gataacacca agccagctcc ccggaagcaa atcctaacac tttcctggca 750  
 gggaacaggc caagtgatct acaaaggttt tctatTTTTT cataaccaag 800  
 caacttctaa tgagataatc aaatataacc tgcagaagag gactgtggaa 850  
 gatcgaatgc tgctcccagg aggggtaggc cgagcattgg tttaccagca 900  
 ctccccctca acttacattg acctggctgt ggatgagcat gggctctggg 950  
 ccatccactc tgggccaggc acccatagcc atttggttct cacaagatt 1000  
 gagccgggca cactgggagt ggagcattca tgggataccc catgcagaag 1050  
 ccaggatgct gaagcctcat tcctotttg tggggttctc tatgtggtct 1100  
 acagtactgg gggccagggc cctcatcgca tcacctgcat ctatgatcca 1150  
 ctgggcacta tcagtgagga ggacttgccc aacttgttct tccccagag 1200  
 accaagaagt cactccatga tccattacaa cccagagat aagcagctct 1250  
 atgcctggaa tgaaggaaac cagatcattt acaaactcca gacaaagaga 1300  
 aagctgcctc tgaagtaatg cattacagct gtgagaaaga gactgtggc 1350  
 tttggcagct gttctacagg acagtgagc tatagcccct tcacaatata 1400  
 gtatccctct aatcacacac aggaagagtg tgtagaagtg gaaatacgta 1450  
 tgcctccttt cccaaatgtc actgccttag gtatcttcca agagcttaga 1500  
 tgagagcata tcatcaggaa agtttcaaca atgtccatta ctccccaaa 1550  
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 ttttgtttta ctgctcccca gcatttactg taactctgcc atcttccctc 1650  
 ccacaattag agttgtatgc cagcccctaa tattcaccac tggtttttct 1700  
 ctcccctggc ctttgtgtaa gctottccct ctttttcaaa tgtctattga 1750  
 tattctccca ttttactgc ccaactaaaa tactattaat atttctttct 1800  
 tttcttttct ttttttgag acaaggctct actatgttgc ccaggctggg 1850  
 ctcaaactcc agagctcaag agatcctcct gcctcagcct cctaagtacc 1900  
 tgggattaca ggcatgtgcc accacacctg gcttaaaata ctatttctta 1950  
 ttgaggttta acctctatct cccctagccc tgtccttcca ctaagcttgg 2000  
 tagatgtaat aataaagtga aaatattaac atttgaatat cgctttccag 2050  
 gtgtggagtg tttgcacatc attgaattct cgtttcacct ttgtgaaaca 2100

tgcacaagtc ttacagctg tcattctaga gtttaggtga gtaacacaat 2150  
 taaaaagtga aagatacagc tagaaaatac taaaatccc atagtttttc 2200  
 cattgcccaa ggaagcatca aatacgtatg ttgttcacc tactcttata 2250  
 gtcaatgcgt tcatcgtttc agcctaaaaa taatagtctg tcccttttagc 2300  
 cagttttcat gtctgcacaa gacctttcaa taggcctttc aaatgataat 2350  
 tcctccagaa aaccagtcta aggggtgagga ccccaactct agcctcctct 2400  
 tgtcttgctg tcctctgttt ctctctttct gctttaaatt caataaaagt 2450  
 gacactgagc aaaaaaaaaa aaaaa 2475

<210> 367  
 <211> 402  
 <212> PRT  
 <213> Homo sapiens

<400> 367  
 Met Met Val Ala Leu Arg Gly Ala Ser Ala Leu Leu Val Leu Phe  
   1                  5                  10                  15  
 Leu Ala Ala Phe Leu Pro Pro Pro Gln Cys Thr Gln Asp Pro Ala  
                   20                  25                  30  
 Met Val His Tyr Ile Tyr Gln Arg Phe Arg Val Leu Glu Gln Gly  
                   35                  40                  45  
 Leu Glu Lys Cys Thr Gln Ala Thr Arg Ala Tyr Ile Gln Glu Phe  
                   50                  55                  60  
 Gln Glu Phe Ser Lys Asn Ile Ser Val Met Leu Gly Arg Cys Gln  
                   65                  70                  75  
 Thr Tyr Thr Ser Glu Tyr Lys Ser Ala Val Gly Asn Leu Ala Leu  
                   80                  85                  90  
 Arg Val Glu Arg Ala Gln Arg Glu Ile Asp Tyr Ile Gln Tyr Leu  
                   95                  100                 105  
 Arg Glu Ala Asp Glu Cys Ile Val Ser Glu Asp Lys Thr Leu Ala  
                  110                 115                 120  
 Glu Met Leu Leu Gln Glu Ala Glu Glu Glu Lys Lys Ile Arg Thr  
                  125                 130                 135  
 Leu Leu Asn Ala Ser Cys Asp Asn Met Leu Met Gly Ile Lys Ser  
                  140                 145                 150  
 Leu Lys Ile Val Lys Lys Met Met Asp Thr His Gly Ser Trp Met  
                  155                 160                 165  
 Lys Asp Ala Val Tyr Asn Ser Pro Lys Val Tyr Leu Leu Ile Gly  
                  170                 175                 180  
 Ser Arg Asn Asn Thr Val Trp Glu Phe Ala Asn Ile Arg Ala Phe  
                  185                 190                 195  
 Met Glu Asp Asn Thr Lys Pro Ala Pro Arg Lys Gln Ile Leu Thr  
                  200                 205                 210

Leu	Ser	Trp	Gln	Gly	Thr	Gly	Gln	Val	Ile	Tyr	Lys	Gly	Phe	Leu	
				215					220					225	
Phe	Phe	His	Asn	Gln	Ala	Thr	Ser	Asn	Glu	Ile	Ile	Lys	Tyr	Asn	
				230					235					240	
Leu	Gln	Lys	Arg	Thr	Val	Glu	Asp	Arg	Met	Leu	Leu	Pro	Gly	Gly	
				245					250					255	
Val	Gly	Arg	Ala	Leu	Val	Tyr	Gln	His	Ser	Pro	Ser	Thr	Tyr	Ile	
				260					265					270	
Asp	Leu	Ala	Val	Asp	Glu	His	Gly	Leu	Trp	Ala	Ile	His	Ser	Gly	
				275					280					285	
Pro	Gly	Thr	His	Ser	His	Leu	Val	Leu	Thr	Lys	Ile	Glu	Pro	Gly	
				290					295					300	
Thr	Leu	Gly	Val	Glu	His	Ser	Trp	Asp	Thr	Pro	Cys	Arg	Ser	Gln	
				305					310					315	
Asp	Ala	Glu	Ala	Ser	Phe	Leu	Leu	Cys	Gly	Val	Leu	Tyr	Val	Val	
				320					325					330	
Tyr	Ser	Thr	Gly	Gly	Gln	Gly	Pro	His	Arg	Ile	Thr	Cys	Ile	Tyr	
				335					340					345	
Asp	Pro	Leu	Gly	Thr	Ile	Ser	Glu	Glu	Asp	Leu	Pro	Asn	Leu	Phe	
				350					355					360	
Phe	Pro	Lys	Arg	Pro	Arg	Ser	His	Ser	Met	Ile	His	Tyr	Asn	Pro	
				365					370					375	
Arg	Asp	Lys	Gln	Leu	Tyr	Ala	Trp	Asn	Glu	Gly	Asn	Gln	Ile	Ile	
				380					385					390	
Tyr	Lys	Leu	Gln	Thr	Lys	Arg	Lys	Leu	Pro	Leu	Lys				
				395					400						

<210> 368  
 <211> 2281  
 <212> DNA  
 <213> Homo sapiens

<400> 368  
 gggcgcccg gtactcacta gctgaggtgg cagtgggttc accaacaatgg 50  
 agctctcgca gatgtcggag ctcatggggc tgtoggtggt gcttggggtg 100  
 ctggccctga tggcgacggc ggcggtagcg cgggggtggc tgcgcgcggg 150  
 ggaggagagg agcggccggc ccgcctgcc aaaagcaa at ggatttccac 200  
 ctgacaaatc ttcgggatcc aagaagcaga aacaatatca gcggattcgg 250  
 aaggagaagc ctcaacaaca caacttcacc caccgcctcc tggctgcagc 300  
 tctgaagagc cacagcggga acatatcttg catggacttt agcagcaatg 350  
 gcaaatacct ggctacctgt gcagatgata gcaccatccg catctggagc 400  
 accaaggact tcctgcagcg agagcaccgc agcatgagag ccaacgtgga 450

gctggaccac gccaccctgg tgcgcttcag ccctgactgc agagccttca 500  
tcgtctggct ggccaacggg gacaccctcc gtgtcttcaa gatgaccaag 550  
cgggaggatg ggggctacac cttcacagcc accccagagg acttccctaa 600  
aaagcacaag gcgcctgtca tcgacattgg cattgctaac acagggaagt 650  
ttatcatgac tgcctccagt gacaccactg tcctcatctg gagcctgaag 700  
ggtcaagtgc tgtctacat caacaccaac cagatgaaca acacacacgc 750  
tgctgtatct ccctgtggca gatttgtagc ctcggtgtggc ttcaccccag 800  
atgtgaaggt ttgggaagtc tgctttggaa agaaggggga gttccaggag 850  
gtggtgagag ccttcgaact aaagggccac tccgoggtg tgcactcgtt 900  
tgctttctcc aacgactcac ggaggatggc ttctgtctcc aaggatggta 950  
catggaaact gtgggacaca gatgtggaat acaagaagaa gcaggacccc 1000  
tacttgctga agacaggccg ctttgaagag gcggcggtg ccgcgccgtg 1050  
ccgcctggcc ctctccccc acgcccaggt cttggccttg gccagtggca 1100  
gtagtattca tctctacaat acccgcgggg gcgagaagga ggagtgcctt 1150  
gagcgggtcc atggcgagt tctcgccaac ttgtcctttg acatcactgg 1200  
ccgctttctg gcctcctgtg gggaccgggc ggtgcggctg tttcacaaca 1250  
ctcctggcca ccgagccatg gtggaggaga tgcagggcca cctgaagcgg 1300  
gcctccaacg agagcacccg ccagaggctg cagcagcagc tgaccaggc 1350  
ccaagagacc ctgaagagcc tgggtgccct gaagaagtga ctctgggagg 1400  
gcccggcgca gaggattgag gaggagggat ctggcctcct catggcactg 1450  
ctgccatctt tcctcccagg tggaagcctt tcagaaggag tctcctggtt 1500  
ttcttactgg tggccctgct tcttccatt gaaactactc ttgtctactt 1550  
aggtctctct cttcttgctg gctgtgactc ctccctgact agtggccaag 1600  
gtgcttttct tcctcccagg ccagtggtt ggaatctgtc ccacactggc 1650  
actgaggaga atggtagaga ggagaggaga gagagagaga atgtgatttt 1700  
tggccttgct gcagcacatc ctcacacca aagaagtttg taaatgttcc 1750  
agaacaacct agagaacacc tgagtactaa gcagcagttt tgcaaggatg 1800  
ggagactggg atagcttccc atcacagaac tgtgttccat caaaaagaca 1850  
ctaagggatt tccttctggg cctcagttct atttgtaaga tggagaataa 1900  
tcctctctgt gaactccttg caaagatgat atgaggctaa gagaatatca 1950  
agtccccagg tctggaagaa aagtagaaaa gagtagtact attgtccaat 2000  
gtcatgaaag tggtaaaagt gggaaccagt gtgctttgaa accaaattag 2050



aaacacattc cttgggaagg caaagttttc tgggacttga tcatacatTT 2100  
 tatatggttg ggactttctct cttcggggaga tgatatcttg ttttaaggaga 2150  
 cctctttttca gttcatcaag ttcatcagat atttgagtgc ccactctgtg 2200  
 cccaaataaa tatgagctgg ggattaaaaa aaaaaaaaaa aaaaaaaaaa 2250  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a 2281

<210> 369  
 <211> 447  
 <212> PRT  
 <213> Homo sapiens

<400> 369  
 Met Glu Leu Ser Gln Met Ser Glu Leu Met Gly Leu Ser Val Leu  
 1 5 10 15  
 Leu Gly Leu Leu Ala Leu Met Ala Thr Ala Ala Val Ala Arg Gly  
 20 25 30  
 Trp Leu Arg Ala Gly Glu Glu Arg Ser Gly Arg Pro Ala Cys Gln  
 35 40 45  
 Lys Ala Asn Gly Phe Pro Pro Asp Lys Ser Ser Gly Ser Lys Lys  
 50 55 60  
 Gln Lys Gln Tyr Gln Arg Ile Arg Lys Glu Lys Pro Gln Gln His  
 65 70 75  
 Asn Phe Thr His Arg Leu Leu Ala Ala Ala Leu Lys Ser His Ser  
 80 85 90  
 Gly Asn Ile Ser Cys Met Asp Phe Ser Ser Asn Gly Lys Tyr Leu  
 95 100 105  
 Ala Thr Cys Ala Asp Asp Arg Thr Ile Arg Ile Trp Ser Thr Lys  
 110 115 120  
 Asp Phe Leu Gln Arg Glu His Arg Ser Met Arg Ala Asn Val Glu  
 125 130 135  
 Leu Asp His Ala Thr Leu Val Arg Phe Ser Pro Asp Cys Arg Ala  
 140 145 150  
 Phe Ile Val Trp Leu Ala Asn Gly Asp Thr Leu Arg Val Phe Lys  
 155 160 165  
 Met Thr Lys Arg Glu Asp Gly Gly Tyr Thr Phe Thr Ala Thr Pro  
 170 175 180  
 Glu Asp Phe Pro Lys Lys His Lys Ala Pro Val Ile Asp Ile Gly  
 185 190 195  
 Ile Ala Asn Thr Gly Lys Phe Ile Met Thr Ala Ser Ser Asp Thr  
 200 205 210  
 Thr Val Leu Ile Trp Ser Leu Lys Gly Gln Val Leu Ser Thr Ile  
 215 220 225  
 Asn Thr Asn Gln Met Asn Asn Thr His Ala Ala Val Ser Pro Cys  
 230 235 240

Gly	Arg	Phe	Val	Ala	Ser	Cys	Gly	Phe	Thr	Pro	Asp	Val	Lys	Val	245	250	255
Trp	Glu	Val	Cys	Phe	Gly	Lys	Lys	Gly	Glu	Phe	Gln	Glu	Val	Val	260	265	270
Arg	Ala	Phe	Glu	Leu	Lys	Gly	His	Ser	Ala	Ala	Val	His	Ser	Phe	275	280	285
Ala	Phe	Ser	Asn	Asp	Ser	Arg	Arg	Met	Ala	Ser	Val	Ser	Lys	Asp	290	295	300
Gly	Thr	Trp	Lys	Leu	Trp	Asp	Thr	Asp	Val	Glu	Tyr	Lys	Lys	Lys	305	310	315
Gln	Asp	Pro	Tyr	Leu	Leu	Lys	Thr	Gly	Arg	Phe	Glu	Glu	Ala	Ala	320	325	330
Gly	Ala	Ala	Pro	Cys	Arg	Leu	Ala	Leu	Ser	Pro	Asn	Ala	Gln	Val	335	340	345
Leu	Ala	Leu	Ala	Ser	Gly	Ser	Ser	Ile	His	Leu	Tyr	Asn	Thr	Arg	350	355	360
Arg	Gly	Glu	Lys	Glu	Glu	Cys	Phe	Glu	Arg	Val	His	Gly	Glu	Cys	365	370	375
Ile	Ala	Asn	Leu	Ser	Phe	Asp	Ile	Thr	Gly	Arg	Phe	Leu	Ala	Ser	380	385	390
Cys	Gly	Asp	Arg	Ala	Val	Arg	Leu	Phe	His	Asn	Thr	Pro	Gly	His	395	400	405
Arg	Ala	Met	Val	Glu	Glu	Met	Gln	Gly	His	Leu	Lys	Arg	Ala	Ser	410	415	420
Asn	Glu	Ser	Thr	Arg	Gln	Arg	Leu	Gln	Gln	Gln	Leu	Thr	Gln	Ala	425	430	435
Gln	Glu	Thr	Leu	Lys	Ser	Leu	Gly	Ala	Leu	Lys	Lys				440	445	

<210> 370  
 <211> 1415  
 <212> DNA  
 <213> Homo sapiens

<400> 370  
 tggcctcccc agcttgccag gcacaaggct gagcgggagg aagcgagagg 50  
 catctaagca ggcagtgttt tgccttcacc ccaagtgacc atgagaggtg 100  
 ccacgcgagt ctcaatcatg ctctcctag taactgtgtc tgactgtgct 150  
 gtgatcacag gggcctgtga gcgggatgtc cagtgtgggg caggcacctg 200  
 ctgtgccatc agcctgtggc ttcgagggct gcggatgtgc accccgctgg 250  
 ggcgggaagg cgaggagtgc caccgccgca gccacaaggc ccccttcttc 300  
 aggaaacgca agcaccacac ctgtccttgc ttgccaacc tgctgtgtc 350  
 caggttcccg gacggcaggt accgctgctc catggacttg aagaacatca 400

atttttaggc gcttgcctgg tctcaggata cccaccatcc ttttcctgag 450  
 cacagcctgg atttttatit ctgccatgaa acccagctcc catgactctc 500  
 ccagtcccta cactgactac cctgatctct cttgtctagt acgcacatat 550  
 gcacacaggc agacatacct cccatcatga catgggtcccc aggctggcct 600  
 gaggatgtca cagcttgagg ctgtgggtgtg aaagggtggcc agcctgggttc 650  
 tcttccctgc tcaggctgcc agagagggtg taaatggcag aaaggacatt 700  
 cccctcccc tccccagggtg acctgctctc tttcctgggc cctgcccctc 750  
 tccccacatg tatccctcgg tctgaattag acattcctgg gcacaggctc 800  
 ttgggtgcat tgctcagagt cccaggctcct ggctgaccc tcaggccctt 850  
 cacgtgaggt ctgtgaggac caatttgtgg gtagttcatc ttccctcgat 900  
 tggttaactc cttagtttca gaccacagac tcaagattgg ctcttcccag 950  
 agggcagcag acagtcaccc caaggcaggt gtagggagcc caggagggcc 1000  
 aatcagcccc ctgaagactc tgggtcccagt cagcctgtgg cttgtggcct 1050  
 gtgacctgtg accttctgcc agaattgtca tgcctctgag gccccctctt 1100  
 accacacttt accagttaac cactgaagcc cccaattccc acagcttttc 1150  
 cattaaaatg caaatggtgg tggttcaatc taatctgata ttgacatatt 1200  
 agaaggcaat taggggtgtt ccttaaaca ctcctttcca aggatcagcc 1250  
 ctgagagcag gttgggtgact ttgaggaggg cagtcctctg tccagattgg 1300  
 ggtgggagca agggacaggg agcagggcag gggctgaaag gggcactgat 1350  
 tcagaccagg gaggcaacta cacaccaaca tgctggcttt agaataaaag 1400  
 caccaactga aaaaa 1415

<210> 371

<211> 105

<212> PRT

<213> Homo sapiens

<400> 371

Met	Arg	Gly	Ala	Thr	Arg	Val	Ser	Ile	Met	Leu	Leu	Leu	Val	Thr
1				5					10					15
Val	Ser	Asp	Cys	Ala	Val	Ile	Thr	Gly	Ala	Cys	Glu	Arg	Asp	Val
			20						25					30
Gln	Cys	Gly	Ala	Gly	Thr	Cys	Cys	Ala	Ile	Ser	Leu	Trp	Leu	Arg
			35						40					45
Gly	Leu	Arg	Met	Cys	Thr	Pro	Leu	Gly	Arg	Glu	Gly	Glu	Glu	Cys
			50						55					60
His	Pro	Gly	Ser	His	Lys	Val	Pro	Phe	Phe	Arg	Lys	Arg	Lys	His
			65						70					75

His	Thr	Cys	Pro	Cys	Leu	Pro	Asn	Leu	Leu	Cys	Ser	Arg	Phe	Pro
				80					85					90
Asp	Gly	Arg	Tyr	Arg	Cys	Ser	Met	Asp	Leu	Lys	Asn	Ile	Asn	Phe
				95					100					105

<210> 372  
 <211> 1281  
 <212> DNA  
 <213> Homo sapiens

<400> 372  
 agcgcccgagg cgctcgaggcg gtaaaaggcc ggacagaagg aggcacttga 50  
 gaaatgtctt tcctccagga cccaagtttc ttcaccatgg ggatgtgggc 100  
 cattggtgca ggagccctgg gggctgctgc cttggcattg ctgcttgcca 150  
 acacagacgt gtttctgtcc aagccccaga aagcggccct ggagtacctg 200  
 gaggatatag acctgaaaac actggagaag gaaccaagga ctttcaaagc 250  
 aaaggagcta tgggaaaaaa atggagctgt gattatggcc gtgcggaggc 300  
 caggctgttt cctctgtcga gaggaagctg cggatctgtc ctccctgaaa 350  
 agcatgttgg accagctggg cgtccccctc tatgcagtgg taaaggagca 400  
 catcaggact gaagtgaagg atttcagacc ttattttcaa ggagaaatct 450  
 tcctggatga aaagaaaaag ttctatgggc cacaaggcg gaagatgatg 500  
 tttatgggat ttatccgtct gggagtgtgg tacaacttct tccgagcctg 550  
 gaacggaggc ttctctggaa acctggaagg agaaggcttc atccttgggg 600  
 gagttttcgt ggtgggatca ggaaagcagg gcattcttct tgagcaccga 650  
 gaaaaagaat ttggagacaa agtaaaccta ctttctgttc tggaagctgc 700  
 taagatgatc aaaccacaga ctttggcctc agagaaaaaa tgattgtgtg 750  
 aaactgcca gctcagggat aaccaggac attcacctgt gttcatggga 800  
 tgtattgttt ccactcgtgt ccctaaggag tgagaaacc atttatactc 850  
 tactctcagt atggattatt aatgtatatt aatattctgt ttaggcccac 900  
 taaggcaaaa tagccccaaa acaagactga caaaaatctg aaaaactaat 950  
 gaggattatt aagctaaaac ctgggaaata ggaggcttaa aattgactgc 1000  
 caggctgggt gcagtggctc acacctgtaa tcccagcact ttgggaggcc 1050  
 aaggtgagca agtcacttga ggtcgggagt tcgagaccag cctgagcaac 1100  
 atggcgaaac cccgtctcta ctaaaaatac aaaaatcacc cgggtgtggg 1150  
 ggcaggcacc tgtagtccca gctaccggg aggctgaggc aggagaatca 1200  
 cttgaacctg ggaggtggag gttgcgggtga gctgagatca caccactgta 1250  
 ttccagcctg ggtgactgag actctaacta a 1281

<210> 373  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 373  
 Met Ser Phe Leu Gln Asp Pro Ser Phe Phe Thr Met Gly Met Trp  
 1 5 10 15  
 Ser Ile Gly Ala Gly Ala Leu Gly Ala Ala Ala Leu Ala Leu Leu  
 20 25 30  
 Leu Ala Asn Thr Asp Val Phe Leu Ser Lys Pro Gln Lys Ala Ala  
 35 40 45  
 Leu Glu Tyr Leu Glu Asp Ile Asp Leu Lys Thr Leu Glu Lys Glu  
 50 55 60  
 Pro Arg Thr Phe Lys Ala Lys Glu Leu Trp Glu Lys Asn Gly Ala  
 65 70 75  
 Val Ile Met Ala Val Arg Arg Pro Gly Cys Phe Leu Cys Arg Glu  
 80 85 90  
 Glu Ala Ala Asp Leu Ser Ser Leu Lys Ser Met Leu Asp Gln Leu  
 95 100 105  
 Gly Val Pro Leu Tyr Ala Val Val Lys Glu His Ile Arg Thr Glu  
 110 115 120  
 Val Lys Asp Phe Gln Pro Tyr Phe Lys Gly Glu Ile Phe Leu Asp  
 125 130 135  
 Glu Lys Lys Lys Phe Tyr Gly Pro Gln Arg Arg Lys Met Met Phe  
 140 145 150  
 Met Gly Phe Ile Arg Leu Gly Val Trp Tyr Asn Phe Phe Arg Ala  
 155 160 165  
 Trp Asn Gly Gly Phe Ser Gly Asn Leu Glu Gly Glu Gly Phe Ile  
 170 175 180  
 Leu Gly Gly Val Phe Val Val Gly Ser Gly Lys Gln Gly Ile Leu  
 185 190 195  
 Leu Glu His Arg Glu Lys Glu Phe Gly Asp Lys Val Asn Leu Leu  
 200 205 210  
 Ser Val Leu Glu Ala Ala Lys Met Ile Lys Pro Gln Thr Leu Ala  
 215 220 225  
 Ser Glu Lys Lys

<210> 374  
 <211> 744  
 <212> DNA  
 <213> Homo sapiens

<400> 374  
 acggaccgag gggtcgaggg agggacacgg accaggaacc tgagctaggt 50  
 caaagacgcc cgggccaggt gccccgtgc aggtgccctt ggccggagat 100

gcggtaggag gggcgagcgc gagaagcccc ttcctcggcg ctgccaaccc 150  
gccaccagc ccatggcgaa ccccgggctg gggctgcttc tggcgctggg 200  
cctgccgttc ctgctggccc gctggggccg agcctggggg caaatacaga 250  
ccacttctgc aaatgagaat agcactgttt tgccttcata caccagctcc 300  
agctccgatg gcaacctgcg tccggaagcc atcactgcta tcatogtggt 350  
cttctccctc ttggctgcct tgctcctggc tgtggggctg gcaactgttg 400  
tgcggaagct tcgggagaag cggcagacgg agggcaccta ccggcccagt 450  
agcgaggagc agttctccca tgcagccgag gcccgggccc ctcaggactc 500  
caaggagacg gtgcagggct gcctgcccat ctagggtccc tctcctgcat 550  
ctgtctccct tcattgctgt gtgaccttgg ggaaaggcag tgccctctct 600  
gggcagtcag atccaccag tgcttaatag caggggaagaa ggtacttcaa 650  
agactctgcc cctgaggtca agagaggatg gggctattca cttttatata 700  
tttatataaa attagtagtg agatgtaaaa aaaaaaaaaa aaaa 744

<210> 375  
<211> 123  
<212> PRT  
<213> Homo sapiens

<400> 375  
Met Ala Asn Pro Gly Leu Gly Leu Leu Leu Ala Leu Gly Leu Pro  
1 5 10 15  
Phe Leu Leu Ala Arg Trp Gly Arg Ala Trp Gly Gln Ile Gln Thr  
20 25 30  
Thr Ser Ala Asn Glu Asn Ser Thr Val Leu Pro Ser Ser Thr Ser  
35 40 45  
Ser Ser Ser Asp Gly Asn Leu Arg Pro Glu Ala Ile Thr Ala Ile  
50 55 60  
Ile Val Val Phe Ser Leu Leu Ala Ala Leu Leu Leu Ala Val Gly  
65 70 75  
Leu Ala Leu Leu Val Arg Lys Leu Arg Glu Lys Arg Gln Thr Glu  
80 85 90  
Gly Thr Tyr Arg Pro Ser Ser Glu Glu Gln Phe Ser His Ala Ala  
95 100 105  
Glu Ala Arg Ala Pro Gln Asp Ser Lys Glu Thr Val Gln Gly Cys  
110 115 120

Leu Pro Ile

<210> 376  
<211> 713  
<212> DNA  
<213> Homo sapiens

<400> 376  
aatatatcat ctatttatca ttaatcaata atgtattctt ttattccaat 50  
aacatttggg ttttgggatt ttaattttca aacacagcag aatgacattt 100  
tttctgtcac tattattatt gttggtatgt gaagctattt ggagatccaa 150  
ttcaggaagc aacacattgg agaatggcta ctttctatca agaaataaag 200  
agaaccacag tcaaccaca caatcatctt tagaagacag tgtgactoct 250  
accaaagctg tcaaaaccac aggcaagggc atagttaaag gacggaatct 300  
tgactcaaga gggttaattc ttggtgctga agcctggggc aggggtgtaa 350  
agaaaaacac ttagattcaa tgattgtaaa ttttaaggcaa atacacatat 400  
tagtattacc ttagtgtaat gtatccctgt catatataca ataaggtgaa 450  
attataagta ccctatgcag ttggctggac agttctaaat tggactttat 500  
taatttttaa aatcagtaac tgatttatca ctggctatgt gcttagatct 550  
acaggagatc atataatttg atacaaataa aagaaaagtg ttctctcccc 600  
ttacagaatt gacattttta atgcgataca gttagaatag gaaatatgac 650  
attagaaagg aagaatgaca gggagaaagg aaagaaggga aaatgttgcc 700  
aaggaaaaaa aaa 713

<210> 377  
<211> 90  
<212> PRT  
<213> Homo sapiens

<400> 377  
Met Thr Phe Phe Leu Ser Leu Leu Leu Leu Val Cys Glu Ala  
1 5 10 15  
Ile Trp Arg Ser Asn Ser Gly Ser Asn Thr Leu Glu Asn Gly Tyr  
20 25 30  
Phe Leu Ser Arg Asn Lys Glu Asn His Ser Gln Pro Thr Gln Ser  
35 40 45  
Ser Leu Glu Asp Ser Val Thr Pro Thr Lys Ala Val Lys Thr Thr  
50 55 60  
Gly Lys Gly Ile Val Lys Gly Arg Asn Leu Asp Ser Arg Gly Leu  
65 70 75  
Ile Leu Gly Ala Glu Ala Trp Gly Arg Gly Val Lys Lys Asn Thr  
80 85 90

<210> 378  
<211> 3265  
<212> DNA  
<213> Homo sapiens

<400> 378  
gccaggaata actagagagg aacaatgggg ttattcagag gttttgtttt 50

cctcttagtt ctgtgcctgc tgcaccagtc aaatacttcc ttcattaagc 100  
tgaataataa tggctttgaa gatattgtca ttgttataga tcctagtgtg 150  
ccagaagatg aaaaaataat tgaacaaata gaggatatgg tgactacagc 200  
ttctacgtac ctgtttgaag ccacagaaaa aagatTTTTT ttcaaaaatg 250  
tatctatatt aattcctgag aattggaagg aaaatcctca gtacaaaagg 300  
ccaaaacatg aaaaccataa acatgctgat gttatagttg caccacctac 350  
actcccaggt agagatgaac catacaccaa gcagttcaca gaatgtggag 400  
agaaaggcga atacattcac ttcaccctg accttctact tggaaaaaaa 450  
caaatgaat atggaccacc aggcaaaactg tttgtccatg agtgggctca 500  
cctccggtgg ggagtgtttg atgagtacaa tgaagatcag cctttctacc 550  
gtgctaagtc aaaaaaatc gaagcaacaa ggtgttccgc aggtatctct 600  
ggtagaaata gagtttataa gtgtcaagga ggcagctgtc ttagtagagc 650  
atgcagaatt gattctacaa caaaaactgta tggaaaagat tgtcaattct 700  
ttcctgataa agtacaaaca gaaaaagcat ccataatgtt tatgcaaagt 750  
attgattctg ttgttgaatt ttgtaacgaa aaaaccata atcaagaagc 800  
tccaagccta caaacataa agtgcaattt tagaagtaca tgggaggtga 850  
ttagcaattc tgaggatttt aaaaacacca taccatggg gacaccacct 900  
cctccacctg tcttctcatt gctgaagatc agtcaaagaa ttgtgtgctt 950  
agttcttgat aagtctggaa gcatgggggg taaggaccgc ctaaatacgaa 1000  
tgaatcaagc agcaaaacat ttctgctgc agactgttga aaatggatcc 1050  
tgggtgggga tgggttcactt tgatagtact gccactattg taaataagct 1100  
aatccaaata aaaagcagtg atgaaagaaa cacactcatg gcaggattac 1150  
ctacatatcc tctgggagga acttccatct gctctggaat taaatatgca 1200  
tttcaggtga ttggagagct acattcccaa ctcgatggat ccgaagtact 1250  
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Val	Phe	Arg	His	Glu	Ile	Glu	Ala	His	Leu	Arg	Lys	Gln	Lys	Gln	
				515					520					525	
Lys	Thr	Ser	Ser	Lys	Lys	Thr									
				530											

<210> 382  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 382  
 ctcggggaaa gggacttgat gttgg 25

<210> 383  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 383  
 gcgaagggtga gcctctatatc cgtgcc 26

<210> 384  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 384  
 cagcctacac gtattgagg 19

<210> 385  
 <211> 48  
 <212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 385

cagtcagtac aatcctggca taatatacgg ccaccatgat gcagtccc 48

<210> 386

<211> 1346

<212> DNA

<213> Homo sapiens

<400> 386

gaaagaatgt tgtggctgct cttttttctg gtgactgcca ttcattgctga 50  
actctgtcaa ccaggtgcag aaaatgcttt taaagtgaga cttagtatca 100  
gaacagctct gggagataaa gcatatgcct gggataccaa tgaagaatac 150  
ctcttcaaag cgatggtagc tttctccatg agaaaagttc ccaacagaga 200  
agcaacagaa atttcccatg tctactttg caatgtaacc cagagggat 250  
cattctgggt tgtgggttaca gacccttcaa aaaatcacac ccttctgct 300  
gttgagggtgc aatcagccat aagaatgaac aagaaccgga tcaacaatgc 350  
cttcttttcta aatgaccaa ctctggaatt tttaaaaatc ccttccacac 400  
ttgcaccacc catggaccca tctgtgcca tctggattat tatatttgg 450  
gtgatatttt gcatcatcat agttgcaatt gcactactga ttttatcagg 500  
gatctggcaa cgtagaagaa agaacaaaga accatctgaa gtggatgacg 550  
ctgaagataa gtgtgaaaac atgatcacia ttgaaaatgg catccccct 600  
gatccccctg acatgaaggg gggcatatta atgatgcctt catgacagag 650  
gatgagaggc tccccctct ctgaagggtt gttgttctgc ttctcaaga 700  
aattaaacat ttgtttctgt gtgactgctg agcatcctga aataccaaga 750  
gcagatcata tattttgttt caccattctt cttttgtaat aaattttgaa 800  
tgtgcttgaa agtgaaaagc aatcaattat acccaccaac accactgaaa 850  
tcataagcta ttcacgactc aaaatattct aaaatatttt tctgacagta 900  
tagtgtataa atgtgggtcat gtggattttg tagttattga tttaagcatt 950  
tttagaaata agatcaggca tatgtatata ttttcacact tcaaagacct 1000  
aaggaaaaat aaattttcca gtggagaata catataatat ggtgtagaaa 1050  
tcattgaaaa tggatccttt ttgacgatca cttatatcac tctgtatatg 1100  
actaagtaaa caaaagttag aagtaattat tgtaaatgga tggataaaaa 1150  
tggaattact catatacagg gtggaatttt atcctgttat cacaccaaca 1200  
gttgattata tattttctga atatcagccc ctaataggac aattctattt 1250

gttgaccatt tctacaattt gtaaaagtcc aatctgtgct aacttaataa 1300

agtaataatc atctcttttt aaaaaaaaaa aaaaaaaaaa aaaaaa 1346

<210> 387

<211> 212

<212> PRT

<213> Homo sapiens

<400> 387

Met	Leu	Trp	Leu	Leu	Phe	Phe	Leu	Val	Thr	Ala	Ile	His	Ala	Glu
1				5					10					15

Leu	Cys	Gln	Pro	Gly	Ala	Glu	Asn	Ala	Phe	Lys	Val	Arg	Leu	Ser
				20					25					30

Ile	Arg	Thr	Ala	Leu	Gly	Asp	Lys	Ala	Tyr	Ala	Trp	Asp	Thr	Asn
				35					40					45

Glu	Glu	Tyr	Leu	Phe	Lys	Ala	Met	Val	Ala	Phe	Ser	Met	Arg	Lys
				50					55					60

Val	Pro	Asn	Arg	Glu	Ala	Thr	Glu	Ile	Ser	His	Val	Leu	Leu	Cys
				65					70					75

Asn	Val	Thr	Gln	Arg	Val	Ser	Phe	Trp	Phe	Val	Val	Thr	Asp	Pro
				80					85					90

Ser	Lys	Asn	His	Thr	Leu	Pro	Ala	Val	Glu	Val	Gln	Ser	Ala	Ile
				95					100					105

Arg	Met	Asn	Lys	Asn	Arg	Ile	Asn	Asn	Ala	Phe	Phe	Leu	Asn	Asp
				110					115					120

Gln	Thr	Leu	Glu	Phe	Leu	Lys	Ile	Pro	Ser	Thr	Leu	Ala	Pro	Pro
				125					130					135

Met	Asp	Pro	Ser	Val	Pro	Ile	Trp	Ile	Ile	Ile	Phe	Gly	Val	Ile
				140					145					150

Phe	Cys	Ile	Ile	Ile	Val	Ala	Ile	Ala	Leu	Leu	Ile	Leu	Ser	Gly
				155					160					165

Ile	Trp	Gln	Arg	Arg	Arg	Lys	Asn	Lys	Glu	Pro	Ser	Glu	Val	Asp
				170					175					180

Asp	Ala	Glu	Asp	Lys	Cys	Glu	Asn	Met	Ile	Thr	Ile	Glu	Asn	Gly
				185					190					195

Ile	Pro	Ser	Asp	Pro	Leu	Asp	Met	Lys	Gly	Gly	Ile	Leu	Met	Met
				200					205					210

Pro Ser

<210> 388

<211> 1371

<212> DNA

<213> Homo sapiens

<400> 388

aactcaaact cctctctctg ggaaaacgcg gtgcttgctc ctcccgagat 50

ggccttggca ggggtgttga gccctcggtc tgccccgtcc ggtctctggg 100  
 gccaaaggctg ggtttccctc atgtatggca agagctctac tcgtgcgggtg 150  
 cttcttctcc ttggcataca gctcacagct ctttggccta tagcagctgt 200  
 ggaaatttat acctcccggg tgctggaggc tgtaaatggg acagatgctc 250  
 ggtaaaatg cactttctcc agctttgccc ctgtgggtga tgctctaaca 300  
 gtgacctgga attttcgtcc tctagacggg ggacctgagc agtttgtatt 350  
 ctactaccac atagatccct tccaacccat gagtgggggg ttttaaggacc 400  
 ggggtgtcttg ggatgggaat cctgagcggg acgatgcctc catccttctc 450  
 tggaaactgc agttcgacga caatgggaca tacacctgcc aggtgaagaa 500  
 cccacctgat gttgatgggg tgatagggga gatccggctc agcgtcgtgc 550  
 aactgtacg cttctctgag atccacttcc tggctctggc cattggctct 600  
 gcctgtgcac tgatgatcat aatagtaatt gtagtgggtc tcttcagca 650  
 ttaccggaaa aagcgatggg ccgaaagagc tcataaagtg gtggagataa 700  
 aatcaaaaga agaggaaagg ctcaaccaag agaaaaaggt ctctgtttat 750  
 ttagaagaca cagactaaca atttttagatg gaagctgaga tgatttccaa 800  
 gaacaagaac cctagtattt cttgaagtta atggaaactt ttctttggct 850  
 tttccagttg tgaccogttt tccaaccagt totgcagcat attagattct 900  
 agacaagcaa caccctctg gagccagcac agtgctctc catatcacca 950  
 gtcatacaca gcctcattat taaggcttta ttttaatttca gagtgtaaat 1000  
 tttttcaagt gtcattagg ttttataaac aagaagctac atttttgccc 1050  
 ttaagacact acttacagtg ttatgacttg tatacacata tattggtatc 1100  
 aaaggggata aaagccaatt tgtctgttac atttccttct acgtatttct 1150  
 tttagcagca cttctgctac taaagttaat gtgtttactc tctttccttc 1200  
 ccacattctc aattaaaagg tgagctaagc ctctcgggtg tttctgatta 1250  
 acagtaaadc ctaaattcaa actgttaaata gacattttta tttttatgtc 1300  
 tctccttaac tatgagacac atcttggttt actgaatttc tttcaatatt 1350  
 ccaggtgata gatttttgtc g 1371

<210> 389  
 <211> 215  
 <212> PRT  
 <213> Homo sapiens

<400> 389  
 Met Tyr Gly Lys Ser Ser Thr Arg Ala Val Leu Leu Leu Leu Gly  
           1                  5                  10                  15

Ile	Gln	Leu	Thr	Ala	Leu	Trp	Pro	Ile	Ala	Ala	Val	Glu	Ile	Tyr	
				20					25					30	
Thr	Ser	Arg	Val	Leu	Glu	Ala	Val	Asn	Gly	Thr	Asp	Ala	Arg	Leu	
				35					40					45	
Lys	Cys	Thr	Phe	Ser	Ser	Phe	Ala	Pro	Val	Gly	Asp	Ala	Leu	Thr	
				50					55					60	
Val	Thr	Trp	Asn	Phe	Arg	Pro	Leu	Asp	Gly	Gly	Pro	Glu	Gln	Phe	
				65					70					75	
Val	Phe	Tyr	Tyr	His	Ile	Asp	Pro	Phe	Gln	Pro	Met	Ser	Gly	Arg	
				80					85					90	
Phe	Lys	Asp	Arg	Val	Ser	Trp	Asp	Gly	Asn	Pro	Glu	Arg	Tyr	Asp	
				95					100					105	
Ala	Ser	Ile	Leu	Leu	Trp	Lys	Leu	Gln	Phe	Asp	Asp	Asn	Gly	Thr	
				110					115					120	
Tyr	Thr	Cys	Gln	Val	Lys	Asn	Pro	Pro	Asp	Val	Asp	Gly	Val	Ile	
				125					130					135	
Gly	Glu	Ile	Arg	Leu	Ser	Val	Val	His	Thr	Val	Arg	Phe	Ser	Glu	
				140					145					150	
Ile	His	Phe	Leu	Ala	Leu	Ala	Ile	Gly	Ser	Ala	Cys	Ala	Leu	Met	
				155					160					165	
Ile	Ile	Ile	Val	Ile	Val	Val	Val	Leu	Phe	Gln	His	Tyr	Arg	Lys	
				170					175					180	
Lys	Arg	Trp	Ala	Glu	Arg	Ala	His	Lys	Val	Val	Glu	Ile	Lys	Ser	
				185					190					195	
Lys	Glu	Glu	Glu	Arg	Leu	Asn	Gln	Glu	Lys	Lys	Val	Ser	Val	Tyr	
				200					205					210	
Leu	Glu	Asp	Thr	Asp											
				215											

<210> 390  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 390  
 ccgaggccat ctagaggcca gagc 24

<210> 391  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 391  
 acaggcagag ccaatggcca gagc 24

<210> 392  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 392  
 gagaggactg cgggagtttg ggacctttgt gcagacgtgc tcatg 45

<210> 393  
 <211> 471  
 <212> DNA  
 <213> Homo sapiens

<400> 393  
 gcatttttgt ctgtgctccc tgatcttcag gtcaccacca tgaagttctt 50  
 agcagtcctg gtactcttgg gagtttccat ctttctggtc tctgcccaga 100  
 atccgacaac agctgctcca gctgacacgt atccagctac tggctcctgct 150  
 gatgatgaag cccctgatgc tgaaaccact gctgctgcaa cactgcgac 200  
 cactgctgct cctaccactg caaccaccgc tgcttctacc actgctcgta 250  
 aagacattcc agttttaccc aaatgggttg gggatctccc gaatggtaga 300  
 gtgtgtccct gagatggaat cagcttgagt cttctgcaat tggtcacaac 350  
 tattcatgct tcctgtgatt tcatccaact acttaccttg cctacgatat 400  
 cccctttatc tctaatacagt ttattttctt tcaaataaaa aataactatg 450  
 agcaacataa aaaaaaaaaa a 471

<210> 394  
 <211> 90  
 <212> PRT  
 <213> Homo sapiens

<400> 394  
 Met Lys Phe Leu Ala Val Leu Val Leu Leu Gly Val Ser Ile Phe  
     1                    5                    10                    15  
 Leu Val Ser Ala Gln Asn Pro Thr Thr Ala Ala Pro Ala Asp Thr  
                     20                    25                    30  
 Tyr Pro Ala Thr Gly Pro Ala Asp Asp Glu Ala Pro Asp Ala Glu  
                     35                    40                    45  
 Thr Thr Ala Ala Ala Thr Thr Ala Thr Thr Ala Ala Pro Thr Thr  
                     50                    55                    60  
 Ala Thr Thr Ala Ala Ser Thr Thr Ala Arg Lys Asp Ile Pro Val  
                     65                    70                    75  
 Leu Pro Lys Trp Val Gly Asp Leu Pro Asn Gly Arg Val Cys Pro  
                     80                    85                    90

<210> 395  
 <211> 25

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 395  
gctccctgat cttcatgtca ccacc 25

<210> 396  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 396  
cagggacaca ctctaccatt cgggag 26

<210> 397  
<211> 42  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 397  
ccatctttct ggtctctgcc cagaatccga caacagctgc tc 42

<210> 398  
<211> 907  
<212> DNA  
<213> Homo sapiens

<400> 398  
ggactctgaa ggtcccaagc agctgctgag gcccccaagg aagtgggttc 50  
aaccttggac ccctaggggt ctggatttgc tggttaacaa gataacctga 100  
gggcaggacc ccatagggga atgctacctc ctgcccttcc acctgccctg 150  
gtgttcacgg tggcctggtc cctccttgcc gagagagtgt cctgggtcag 200  
ggacgcagag gacgctcaca gactccagcc ctttgttacc gagaggacac 250  
ttggcaaggt ccagcgatgg tccggagtcc acacacagac tggcggcagg 300  
gcaggagggg gacagttctg ttgtgcttgg ttggacagta agaggggtctt 350  
ggccagtcca gggtaggggg cggcacaaactc cataaagaac cagaggggtct 400  
gggccccggc cacagagtca tctgcccagc tcctctgctg ctggccagtg 450  
ggagtggcac gaggtggggc tttgtgccag taaaaccaca ggctggattt 500  
gcctgcgggc catggtccct gtctagggca gcaattctca accttcttgc 550  
tctcaggacc ccaaagagct ttcatgtgat ctattgattt ttaccacatt 600  
agcaattaa actgagaaat gggccgggca cggtggctca cgctgtaat 650

cccagcactt tgggaggccg aggcgggtgg atcacctgag atcaggagtt 700  
 caagaccagc ctggccaaca tgggtgaaacc ttgtctacta aaaatacaaa 750  
 aaattagcca ggcacagtgg tgtgcactgg tagtcccagt tactcgggag 800  
 gctgaggcag gaaaatcgct tgaaccacagg aggcggacgt tgcggtgagc 850  
 cgagatcgcg ccgctgattc cagcctgggc gacaagagtg agactccatc 900  
 tcacaca 907

<210> 399  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 399  
 Met Leu Pro Pro Ala Leu Pro Pro Ala Leu Val Phe Thr Val Ala  
 1 5 10 15  
 Trp Ser Leu Leu Ala Glu Arg Val Ser Trp Val Arg Asp Ala Glu  
 20 25 30  
 Asp Ala His Arg Leu Gln Pro Phe Val Thr Glu Arg Thr Leu Gly  
 35 40 45  
 Lys Val Gln Arg Trp Ser Gly Val His Thr Gln Thr Gly Gly Arg  
 50 55 60  
 Ala Gly Gly Gly Gln Phe Cys Cys Ala Trp Leu Asp Ser Lys Arg  
 65 70 75  
 Val Leu Ala Ser Pro Gly Trp Gly Ala Ala Asn Ser Ile Lys Asn  
 80 85 90  
 Gln Arg Val Trp Ala Pro Ala Thr Glu Ser Ser Ala Gln Leu Leu  
 95 100 105  
 Cys Cys Trp Pro Val Gly Val Ala Arg Gly Gly Ala Leu Cys Gln  
 110 115 120

<210> 400  
 <211> 893  
 <212> DNA  
 <213> Homo sapiens

<400> 400  
 gtcacatgccag tgctgtctct gtgcctgctc tgggccctgg caatggtgac 50  
 ccggcctgcc tcagcggccc ccatgggagg cccagaactg gcacagcatg 100  
 aggagctgac cctgctcttc catgggaccc tgcagctggg ccaggccctc 150  
 aacggtgtgt acaggaccac ggagggacgg ctgacaaagg ccaggaacag 200  
 cctgggtctc tatggccgca caatagaact cctggggcag gaggtcagcc 250  
 ggggccggga tgcagcccag gaacttcggg caagcctgtt ggagactcag 300  
 atggaggagg atattctgca gctgcaggca gagggcacag ctgaggtgct 350  
 gggggagggtg gccagggcac agaaggtgct acgggacagc gtgcagcggc 400



tagaagtcca gctgaggagc gcctggctgg gccctgccta ccgagaattt 450  
 gaggtcttaa aggctcacgc tgacaagcag agccacatcc tatgggccct 500  
 cacaggccac gtgcagcggc agaggcggga gatggtggca cagcagcatc 550  
 ggctgcgaca gatccaggag agactccaca cagcggcgct cccagcctga 600  
 atctgcctgg atggaactga ggaccaatca tgctgcaagg aacacttcca 650  
 cgccccgtga ggccccgtg caggaggag ctgcctgttc actgggatca 700  
 gccaggcgc cgggccccac ttctgagcac agagcagaga cagacgcagg 750  
 cggggacaaa ggcagaggat gtagcccat tggggagggg tggaggaagg 800  
 acatgtaccc ttctatgcct acacacccct cattaaagca gagtcgtggc 850  
 atttcaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 893

<210> 401  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 401  
 Met Pro Val Pro Ala Leu Cys Leu Leu Trp Ala Leu Ala Met Val  
 1 5 10 15  
 Thr Arg Pro Ala Ser Ala Ala Pro Met Gly Gly Pro Glu Leu Ala  
 20 25 30  
 Gln His Glu Glu Leu Thr Leu Leu Phe His Gly Thr Leu Gln Leu  
 35 40 45  
 Gly Gln Ala Leu Asn Gly Val Tyr Arg Thr Thr Glu Gly Arg Leu  
 50 55 60  
 Thr Lys Ala Arg Asn Ser Leu Gly Leu Tyr Gly Arg Thr Ile Glu  
 65 70 75  
 Leu Leu Gly Gln Glu Val Ser Arg Gly Arg Asp Ala Ala Gln Glu  
 80 85 90  
 Leu Arg Ala Ser Leu Leu Glu Thr Gln Met Glu Glu Asp Ile Leu  
 95 100 105  
 Gln Leu Gln Ala Glu Ala Thr Ala Glu Val Leu Gly Glu Val Ala  
 110 115 120  
 Gln Ala Gln Lys Val Leu Arg Asp Ser Val Gln Arg Leu Glu Val  
 125 130 135  
 Gln Leu Arg Ser Ala Trp Leu Gly Pro Ala Tyr Arg Glu Phe Glu  
 140 145 150  
 Val Leu Lys Ala His Ala Asp Lys Gln Ser His Ile Leu Trp Ala  
 155 160 165  
 Leu Thr Gly His Val Gln Arg Gln Arg Arg Glu Met Val Ala Gln  
 170 175 180  
 Gln His Arg Leu Arg Gln Ile Gln Glu Arg Leu His Thr Ala Ala

Leu Pro Ala

<210> 402  
 <211> 1915  
 <212> DNA  
 <213> Homo sapiens

<400> 402  
 ggcaacatgg ctcagcaggc ttgccccaga gccatggcaa agaatggact 50  
 tgtaatttgc atcctggtga tcaccttact cctggaccag accaccagcc 100  
 acacatccag attaaaagcc aggaagcaca gcaaacgtcg agtgagagac 150  
 aaggatggag atctgaagac tcaaattgaa aagctctgga cagaagtcaa 200  
 tgccttgaag gaaattcaag ccctgcagac agtctgtctc cgaggcacta 250  
 aagttcacaa gaaatgctac cttgcttcag aaggtttgaa gcatttccat 300  
 gaggccaatg aagactgcat ttccaaagga ggaatcctgg ttatccccag 350  
 gaactccgac gaaatcaacg ccctccaaga ctatggtaaa aggagcctgc 400  
 caggtgtcaa tgacttttgg ctgggcatca atgacatggt cacggaaggc 450  
 aagtttgttg acgtcaacgg aatcgctatc tccttctca actgggaccg 500  
 tgcacagcct aacggtggca agcgagaaaa ctgtgtcctg ttctcccaat 550  
 cagctcaggg caagtggagt gatgaggcct gtcgcagcag caagagatac 600  
 atatgcgagt tcaccatccc taaataggtc tttctccaat gtgtcctcca 650  
 agcaagattc atcataactt ataggttcat gatctctaag atcaagtaaa 700  
 aatcataatt tttacttatt aaaaaattgc aacacaagat caatgtccat 750  
 agcaatatga tagcatcagc caattttgct aacacatttc tttgggattt 800  
 tgcccttcct ggggtatagg ggatcagaaa tattgatcca tgtgcacgca 850  
 gataaaatgg cttctgctaa acagactaaa atctttctct ctagtctttc 900  
 tcacttgtag aaaccagtt tgttttcaaa aaatcacagt agcaatgcaa 950  
 ctcatcactc tagaaaagca agcttaggct acctgaaaga ttttcccttg 1000  
 gaagtttagc gtatgtttga ctaacaaaaa ttccctacat cagagactct 1050  
 aggtgctata taatccaaaa acttttcagc ctggtgctca ttctgtccca 1100  
 tgctggcaat aataccttgt cagccatta cccttatttt gaattgctcc 1150  
 atctcctggt gggacttgta tottgtctgc catatcagaa cacaaacccc 1200  
 tgaagagggt ctgatttgat tttttttttt tottcatgcc tacccttttt 1250  
 ttggaagttt ccagccgcaa tttgaaatga aatgacaagg tgtatatattg 1300

atcaattttc attcccacca ttgcattaca acctctaact taaatgggta 1350  
 accctaaggc atatcaaaga agcagattgc atgataaacg gaaatagaaa 1400  
 aaaagaacct acattttattt tgcttttagca tccttactct caccttttat 1450  
 gagattgaga gtggacttac atttcctttt ttacattttc gtatatattat 1500  
 ttttttttagc catcattata tgtttaagtc tattatgggc aaccaatcctt 1550  
 tggaagctga aaactgaatt taaagaatgc tatcttggaa aattgcatac 1600  
 gtctgtgcaa ttttttattc tgcctagtagc tattctgctt gtttaactag 1650  
 attgtacaaa ataacttcat tgcttaatat caaattacaa agtttagact 1700  
 tggagggaaa tgggcttttt agaagcaaac aatttttaa atattttgtt 1750  
 cttcaaataa atagtgttta aacattgaat gtgttttgtg aacaatatcc 1800  
 cactttgcaa actttaacta cacatgcttg gaattaagtt ttagctgttt 1850  
 tcattgctca ataataaagc ctgaattctg atcaataaaa aaaaaaaaaa 1900  
 aaaaaaaaaa aaaaa 1915

<210> 403  
 <211> 206  
 <212> PRT  
 <213> Homo sapiens

<400> 403  
 Met Ala Gln Gln Ala Cys Pro Arg Ala Met Ala Lys Asn Gly Leu  
 1 5 10 15  
 Val Ile Cys Ile Leu Val Ile Thr Leu Leu Leu Asp Gln Thr Thr  
 20 25 30  
 Ser His Thr Ser Arg Leu Lys Ala Arg Lys His Ser Lys Arg Arg  
 35 40 45  
 Val Arg Asp Lys Asp Gly Asp Leu Lys Thr Gln Ile Glu Lys Leu  
 50 55 60  
 Trp Thr Glu Val Asn Ala Leu Lys Glu Ile Gln Ala Leu Gln Thr  
 65 70 75  
 Val Cys Leu Arg Gly Thr Lys Val His Lys Lys Cys Tyr Leu Ala  
 80 85 90  
 Ser Glu Gly Leu Lys His Phe His Glu Ala Asn Glu Asp Cys Ile  
 95 100 105  
 Ser Lys Gly Gly Ile Leu Val Ile Pro Arg Asn Ser Asp Glu Ile  
 110 115 120  
 Asn Ala Leu Gln Asp Tyr Gly Lys Arg Ser Leu Pro Gly Val Asn  
 125 130 135  
 Asp Phe Trp Leu Gly Ile Asn Asp Met Val Thr Glu Gly Lys Phe  
 140 145 150  
 Val Asp Val Asn Gly Ile Ala Ile Ser Phe Leu Asn Trp Asp Arg

	155		160		165
Ala Gln Pro Asn Gly Gly Lys Arg Glu Asn Cys Val Leu Phe Ser					
	170		175		180
Gln Ser Ala Gln Gly Lys Trp Ser Asp Glu Ala Cys Arg Ser Ser					
	185		190		195
Lys Arg Tyr Ile Cys Glu Phe Thr Ile Pro Lys					
	200		205		

<210> 404  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 404  
 cctgggtatc cccaggaact ccgac 25

<210> 405  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 405  
 ctcttgctgc tgcgacaggc ctc 23

<210> 406  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 406  
 cgccctccaa gactatggta aaaggagcct gccaggtgtc aatgac 46

<210> 407  
 <211> 570  
 <212> DNA  
 <213> Homo sapiens

<400> 407  
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 ttccccgcgc gccccgagcc cccgcgccat gaagctcgcc gccctcctgg 100  
 ggctctgctt ggccctgtcc tgcagctccg ctgctgcttt cttagtgggc 150  
 tcggccaagc ctgtggccca gcctgtcgct ggcgtggagt cggcggcgga 200  
 ggccggggcc gggaccctgg ccaacccctc cggcaccctc aaccgctga 250  
 agctcctgct gagcagcctg ggcacccccg tgaaccacct catagagggc 300  
 tcccagaagt gtgtggctga gctgggtccc caggccgtgg gggccgtgaa 350

ggccctgaag gccctgctgg gggccctgac agtgtttggc tgagccgaga 400  
 ctggagcatc tacacctgag gacaagacgc tgcccacccg cgaggggtga 450  
 aaaccccgcc gcggggagga cctgccatcc ccttcccccg gccctctca 500  
 ataaacgtgg ttaagagcaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 550  
 aaaaaaaaaa aaaaaaaaaa 570

<210> 408  
 <211> 104  
 <212> PRT  
 <213> Homo sapiens

<400> 408  
 Met Lys Leu Ala Ala Leu Leu Gly Leu Cys Val Ala Leu Ser Cys  
 1 5 10 15  
 Ser Ser Ala Ala Ala Phe Leu Val Gly Ser Ala Lys Pro Val Ala  
 20 25 30  
 Gln Pro Val Ala Ala Leu Glu Ser Ala Ala Glu Ala Gly Ala Gly  
 35 40 45  
 Thr Leu Ala Asn Pro Leu Gly Thr Leu Asn Pro Leu Lys Leu Leu  
 50 55 60  
 Leu Ser Ser Leu Gly Ile Pro Val Asn His Leu Ile Glu Gly Ser  
 65 70 75  
 Gln Lys Cys Val Ala Glu Leu Gly Pro Gln Ala Val Gly Ala Val  
 80 85 90  
 Lys Ala Leu Lys Ala Leu Leu Gly Ala Leu Thr Val Phe Gly  
 95 100

<210> 409  
 <211> 2089  
 <212> DNA  
 <213> Homo sapiens

<400> 409  
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 aagggaggca ctcccttgcc tccgcagccg atcacatgaa ggtggtgcc 100  
 agtctcctgc totccgtcct cctggcacag gtgtggctgg taccgggctt 150  
 ggccccagt cctcagtcgc cagagacccc agcccctcag aaccagacca 200  
 gcagggtagt gcaggctccc agggaggaag aggaagatga gcaggaggcc 250  
 agcgaggaga aggccggtga ggaagagaaa gcctggctga tggccagcag 300  
 gcagcagctt gccaaggaga cttcaactt cggattcagc ctgctgcgaa 350  
 agatctccat gaggcacgat ggcaacatgg tcttctctcc atttggcatg 400  
 tccttgGCCA tgacaggctt gatgctgggg gccacagggc cgactgaaac 450  
 ccagatcaag agagggctcc acttgcaggc cctgaagccc accaagccc 500

ggctcctgcc ttccctcttt aagggactca gagagaccct ctcccgaac 550  
 ctggaactgg gcctctcaca ggggagtttt gccttcatcc acaaggattt 600  
 tgatgtcaaa gagactttct tcaatttata caagaggtat ttgatacag 650  
 agtgcgtgcc tatgaatttt cgcaatgcct cacaggccaa aaggctcatg 700  
 aatcattaca ttaacaaaga gactcggggg aaaattccca aactgtttga 750  
 tgagattaat cctgaaacca aattaattct tgtggattac atcttgttca 800  
 aagggaatg gttgacccca ttgaccctg tcttcaccga agtcgacact 850  
 ttccacctgg acaagtacaa gaccattaag gtgcccatga tgtacggtgc 900  
 aggcaagttt gcctccacct ttgacaagaa ttttcgttgt catgtcctca 950  
 aactgcccta ccaaggaaat gccaccatgc tgggtgtcct catggagaaa 1000  
 atgggtgacc acctcgcctt tgaagactac ctgaccacag acttggtgga 1050  
 gacatggctc agaaacatga aaaccagaaa catggaagtt ttctttccga 1100  
 agttcaagct agatcagaag tatgagatgc atgagctgct taggcagatg 1150  
 ggaatcagaa gaatcttctc accctttgct gaccttagtg aactctcagc 1200  
 tactggaaga aatctccaag tatccagggt ttacgaaga acagtgattg 1250  
 aagttgatga aaggggcact gaggcagtgg caggaatctt gtcagaaatt 1300  
 actgcttatt ccatgcctcc tgtcatcaaa gtggaccggc catttcattt 1350  
 catgatctat gaagaaacct ctggaatgct tctgtttctg ggcagggtgg 1400  
 tgaatccgac tctcctataa ttcaggacat gcataagcac ttogtgctgt 1450  
 agtagatgct gaatctgagg tatcaaacac acacaggata ccagcaatgg 1500  
 atggcagggg agagtgttcc tttgtttctt aactagttta ggggtgttctc 1550  
 aaataaatac agtagtcccc acttatctga gggggatata ttcaaagacc 1600  
 cccagcagat gcctgaaacg gtggacagtg ctgaacctta tatatatttt 1650  
 ttctacaca tacataccta tgataaagtt taatttataa attaggcaca 1700  
 gtaagagatt aacaataata acaacattaa gtaaaatgag ttacttgaac 1750  
 gcaagcactg caataccata acagtcaaac tgattataga gaaggctact 1800  
 aagtgactca tgggcgagga gcatagacag tgtggagaca ttgggcaagg 1850  
 ggagaattca catcctgggt gggacagagc aggacgatgc aagattccat 1900  
 cccactactc agaatggcat gctgcttaag acttttagat tgtttatttc 1950  
 tggaattttt catttaatgt ttttgacca tggttgacca tggttactg 2000  
 agactgcaga aagcaaaacc atggataagg gaggaactact acaaaagcat 2050  
 taaattgata catatttttt aaaaaaaaaa aaaaaaaaaa 2089

[illegible]

Met	Lys	Val	Val	Pro	Ser	Leu	Leu	Leu	Ser	Val	Val	Leu	Leu	Ala	Gln
1				5					10						15
Val	Trp	Leu	Val	Pro	Gly	Leu	Ala	Pro	Ser	Pro	Gln	Ser	Pro	Pro	Glu
				20					25						30
Thr	Pro	Ala	Pro	Gln	Asn	Gln	Thr	Ser	Arg	Val	Val	Gln	Ala	Pro	Pro
				35					40						45
Arg	Glu	Glu	Glu	Glu	Asp	Glu	Gln	Glu	Ala	Ser	Glu	Glu	Lys	Ala	Ala
				50					55						60
Gly	Glu	Glu	Glu	Lys	Ala	Trp	Leu	Met	Ala	Ser	Arg	Gln	Gln	Leu	Leu
				65					70						75
Ala	Lys	Glu	Thr	Ser	Asn	Phe	Gly	Phe	Ser	Leu	Leu	Arg	Lys	Ile	Ile
				80					85						90
Ser	Met	Arg	His	Asp	Gly	Asn	Met	Val	Phe	Ser	Pro	Phe	Gly	Met	Met
				95					100						105
Ser	Leu	Ala	Met	Thr	Gly	Leu	Met	Leu	Gly	Ala	Thr	Gly	Pro	Thr	Thr
				110					115						120
Glu	Thr	Gln	Ile	Lys	Arg	Gly	Leu	His	Leu	Gln	Ala	Leu	Lys	Pro	Pro
				125					130						135
Thr	Lys	Pro	Gly	Leu	Leu	Pro	Ser	Leu	Phe	Lys	Gly	Leu	Arg	Glu	Glu
				140					145						150
Thr	Leu	Ser	Arg	Asn	Leu	Glu	Leu	Gly	Leu	Ser	Gln	Gly	Ser	Phe	Phe
				155					160						165
Ala	Phe	Ile	His	Lys	Asp	Phe	Asp	Val	Lys	Glu	Thr	Phe	Phe	Asn	Asn
				170					175						180
Leu	Ser	Lys	Arg	Tyr	Phe	Asp	Thr	Glu	Cys	Val	Pro	Met	Asn	Phe	Phe
				185					190						195
Arg	Asn	Ala	Ser	Gln	Ala	Lys	Arg	Leu	Met	Asn	His	Tyr	Ile	Asn	Asn
				200					205						210
Lys	Glu	Thr	Arg	Gly	Lys	Ile	Pro	Lys	Leu	Phe	Asp	Glu	Ile	Asn	Asn
				215					220						225
Pro	Glu	Thr	Lys	Leu	Ile	Leu	Val	Asp	Tyr	Ile	Leu	Phe	Lys	Gly	Gly
				230					235						240
Lys	Trp	Leu	Thr	Pro	Phe	Asp	Pro	Val	Phe	Thr	Glu	Val	Asp	Thr	Thr
				245					250						255
Phe	His	Leu	Asp	Lys	Tyr	Lys	Thr	Ile	Lys	Val	Pro	Met	Met	Tyr	Tyr
				260					265						270
Gly	Ala	Gly	Lys	Phe	Ala	Ser	Thr	Phe	Asp	Lys	Asn	Phe	Arg	Cys	Cys
				275					280						285

His	Val	Leu	Lys	Leu	Pro	Tyr	Gln	Gly	Asn	Ala	Thr	Met	Leu	Val	290	295	300
Val	Leu	Met	Glu	Lys	Met	Gly	Asp	His	Leu	Ala	Leu	Glu	Asp	Tyr	305	310	315
Leu	Thr	Thr	Asp	Leu	Val	Glu	Thr	Trp	Leu	Arg	Asn	Met	Lys	Thr	320	325	330
Arg	Asn	Met	Glu	Val	Phe	Phe	Pro	Lys	Phe	Lys	Leu	Asp	Gln	Lys	335	340	345
Tyr	Glu	Met	His	Glu	Leu	Leu	Arg	Gln	Met	Gly	Ile	Arg	Arg	Ile	350	355	360
Phe	Ser	Pro	Phe	Ala	Asp	Leu	Ser	Glu	Leu	Ser	Ala	Thr	Gly	Arg	365	370	375
Asn	Leu	Gln	Val	Ser	Arg	Val	Leu	Arg	Arg	Thr	Val	Ile	Glu	Val	380	385	390
Asp	Glu	Arg	Gly	Thr	Glu	Ala	Val	Ala	Gly	Ile	Leu	Ser	Glu	Ile	395	400	405
Thr	Ala	Tyr	Ser	Met	Pro	Pro	Val	Ile	Lys	Val	Asp	Arg	Pro	Phe	410	415	420
His	Phe	Met	Ile	Tyr	Glu	Glu	Thr	Ser	Gly	Met	Leu	Leu	Phe	Leu	425	430	435
Gly	Arg	Val	Val	Asn	Pro	Thr	Leu	Leu							440		

<210> 411  
 <211> 636  
 <212> DNA  
 <213> Homo sapiens

<400> 411  
 ctgggatcag ccactgcagc tccctgagca ctctctacag agacgoggac 50  
 cccagacatg aggaggctcc tcctggtcac cagcctggtg gttgtgctgc 100  
 tgtgggaggc aggtgcagtc ccagcaccca aggtccctat caagatgcaa 150  
 gtcaaactact ggccctcaga gcaggaccca gagaaggcct ggggcgcccg 200  
 tgtggtggag cctccggaga aggacgacca gctggtggtg ctgttccctg 250  
 tccagaagcc gaaactcttg accaccgagg agaagccacg aggtcagggc 300  
 aggggccccca tccttcagg caccaaggcc tggatggaga ccgaggacac 350  
 cctgggccgt gtcctgagtc ccgagcccga ccatgacagc ctgtaccacc 400  
 ctccgcctga ggaggaccag ggcgaggaga ggccccggtt gtgggtgatg 450  
 ccaaatacc aggtgctcct gggaccggag gaagaccaag accacatcta 500  
 ccacccccag tagggctcca ggggccatca ctgccccgc cctgtcccaa 550  
 ggcccaggct gttgggactg ggaccctccc taccctgcc cagctagaca 600



aataaacccc agcaggcaaa aaaaaaaaaa aaaaaa 636

<210> 412  
<211> 151  
<212> PRT  
<213> Homo sapiens

<400> 412  
Met Arg Arg Leu Leu Leu Val Thr Ser Leu Val Val Val Leu Leu  
1 5 10 15  
Trp Glu Ala Gly Ala Val Pro Ala Pro Lys Val Pro Ile Lys Met  
20 25 30  
Gln Val Lys His Trp Pro Ser Glu Gln Asp Pro Glu Lys Ala Trp  
35 40 45  
Gly Ala Arg Val Val Glu Pro Pro Glu Lys Asp Asp Gln Leu Val  
50 55 60  
Val Leu Phe Pro Val Gln Lys Pro Lys Leu Leu Thr Thr Glu Glu  
65 70 75  
Lys Pro Arg Gly Gln Gly Arg Gly Pro Ile Leu Pro Gly Thr Lys  
80 85 90  
Ala Trp Met Glu Thr Glu Asp Thr Leu Gly Arg Val Leu Ser Pro  
95 100 105  
Glu Pro Asp His Asp Ser Leu Tyr His Pro Pro Pro Glu Glu Asp  
110 115 120  
Gln Gly Glu Glu Arg Pro Arg Leu Trp Val Met Pro Asn His Gln  
125 130 135  
Val Leu Leu Gly Pro Glu Glu Asp Gln Asp His Ile Tyr His Pro  
140 145 150  
Gln

<210> 413  
<211> 1176  
<212> DNA  
<213> Homo sapiens

<400> 413  
agaaagctgc actctgttga gctccagggc gcagtggagg gagggagtga 50  
aggagctctc tgtaccaag gaaagtgcag ctgagactca gacaagatta 100  
caatgaacca actcagcttc ctgctgtttc tcatagogac caccagagga 150  
tggagtacag atgaggctaa tacttacttc aaggaatgga cctgttcttc 200  
gtctccatct ctgcccagaa gctgcaagga aatcaaagac gaatgtccta 250  
gtgcatttga tggcctgtat tttctccgca ctgagaatgg tgttatctac 300  
cagaccttct gtgacatgac ctctgggggt ggcggctgga ccctggtggc 350  
cagcgtgcat gagaatgaca tgcgtgggaa gtgcacggtg ggcgatcgct 400

ggtccagtca gcagggcagc aaagcagact acccagaggg ggacggcaac 450  
 tgggccaact acaacacctt tggatctgca gaggcggcca cgagcgatga 500  
 ctacaagaac cctggctact acgacatcca ggccaaggac ctgggcatct 550  
 ggcacgtgcc caataagtcc cccatgcagc actggagaaa cagctccctg 600  
 ctgaggtacc gcacggacac tggcttcctc cagacactgg gacataatct 650  
 gtttggcatc taccagaaat atccagtga atattggagaa ggaaagtgtt 700  
 ggactgacaa cggcccgggtg atccctgtgg tctatgattt tggcgacgcc 750  
 cagaaaacag catcttatta ctcaccctat ggccagcggg aattcactgc 800  
 gggatttgtt cagttcaggg tatttaataa cgagagagca gccaacgcct 850  
 tgtgtgctgg aatgaggggtc accggatgta aactgagca tcaactgcatt 900  
 ggtggaggag gatactttcc agaggccagt cccagcagt gtggagattt 950  
 ttctggtttt gattggagtg gatattggaac tcatgttggg tacagcagca 1000  
 gccgtgagat aactgaggca gctgtgcttc tattctatcg ttgagagttt 1050  
 tgtgggaggg aaccagacc tctcctccca accatgagat cccaaggatg 1100  
 gagaacaact taccagtag ctagaatgtt aatggcagaa gagaaaacaa 1150  
 taaatcatat tgactcaaga aaaaaa 1176

<210> 414  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

<400> 414  
 Met Asn Gln Leu Ser Phe Leu Leu Phe Leu Ile Ala Thr Thr Arg  
 1 5 10 15  
 Gly Trp Ser Thr Asp Glu Ala Asn Thr Tyr Phe Lys Glu Trp Thr  
 20 25 30  
 Cys Ser Ser Ser Pro Ser Leu Pro Arg Ser Cys Lys Glu Ile Lys  
 35 40 45  
 Asp Glu Cys Pro Ser Ala Phe Asp Gly Leu Tyr Phe Leu Arg Thr  
 50 55 60  
 Glu Asn Gly Val Ile Tyr Gln Thr Phe Cys Asp Met Thr Ser Gly  
 65 70 75  
 Gly Gly Gly Trp Thr Leu Val Ala Ser Val His Glu Asn Asp Met  
 80 85 90  
 Arg Gly Lys Cys Thr Val Gly Asp Arg Trp Ser Ser Gln Gln Gly  
 95 100 105  
 Ser Lys Ala Asp Tyr Pro Glu Gly Asp Gly Asn Trp Ala Asn Tyr  
 110 115 120  
 Asn Thr Phe Gly Ser Ala Glu Ala Ala Thr Ser Asp Asp Tyr Lys

	125		130		135
Asn Pro Gly Tyr	Tyr Asp Ile Gln Ala	Lys Asp Leu Gly Ile	Trp		
	140	145	150		
His Val Pro Asn	Lys Ser Pro Met Gln	His Trp Arg Asn Ser	Ser		
	155	160	165		
Leu Leu Arg Tyr	Arg Thr Asp Thr Gly	Phe Leu Gln Thr Leu	Gly		
	170	175	180		
His Asn Leu Phe	Gly Ile Tyr Gln Lys	Tyr Pro Val Lys Tyr	Gly		
	185	190	195		
Glu Gly Lys Cys	Trp Thr Asp Asn Gly	Pro Val Ile Pro Val	Val		
	200	205	210		
Tyr Asp Phe Gly	Asp Ala Gln Lys Thr	Ala Ser Tyr Tyr Ser	Pro		
	215	220	225		
Tyr Gly Gln Arg	Glu Phe Thr Ala Gly	Phe Val Gln Phe Arg	Val		
	230	235	240		
Phe Asn Asn Glu	Arg Ala Ala Asn Ala	Leu Cys Ala Gly Met	Arg		
	245	250	255		
Val Thr Gly Cys	Asn Thr Glu His His	Cys Ile Gly Gly Gly	Gly		
	260	265	270		
Tyr Phe Pro Glu	Ala Ser Pro Gln Gln	Cys Gly Asp Phe Ser	Gly		
	275	280	285		
Phe Asp Trp Ser	Gly Tyr Gly Thr His	Val Gly Tyr Ser Ser	Ser		
	290	295	300		
Arg Glu Ile Thr	Glu Ala Ala Val Leu	Leu Phe Tyr Arg			
	305	310			

<210> 415  
 <211> 1281  
 <212> DNA  
 <213> Homo sapiens

<400> 415  
 gcggagccgg cgccggctgc gcagaggagc cgctctcgcc gccgccacct 50  
 cggctgggag cccacgaggc tgccgcatcc tgccctcgga acaatgggac 100  
 tcggcgcgcg aggtgcttgg gccgcgctgc tcttggggac gctgcaggtg 150  
 ctagcgctgc tggggggccgc ccatgaaagc gcagccatgg cggcatctgc 200  
 aaacatagag aattctgggc ttccacacaa ctccagtgtt aactcaacag 250  
 agactctcca acatgtgcct tctgaccata caaatgaaac ttccaacagt 300  
 actgtgaaac caccaacttc agttgcctca gactccagta atacaacggt 350  
 caccaccatg aaacctacag cggcatctaa tacaacaaca ccagggatgg 400  
 tctcaacaaa tatgacttct accaccttaa agtctacacc caaaacaaca 450  
 agtgtttcac agaacacatc tcagatatca acatccacaa tgaccgtaac 500

ccacaatagt tcagtgacat ctgctgcttc atcagtaaca atcacaacaa 550  
ctatgcattc tgaagcaaag aaaggatcaa aatttgatac tgggagcttt 600  
gttggtggtta ttgtattaac gctgggagtt ttatctattc tttacattgg 650  
atgcaaaatg tattactcaa gaagaggcat tcggtatcga accatagatg 700  
aacatgatgc catcatttaa ggaaatccat ggaccaagga tggaatacag 750  
attgatgctg ccctatcaat taattttggt ttattaatag tttaaaacaa 800  
tattctcttt ttgaaaatag tataaacagg ccatgcatat aatgtacagt 850  
gtattacgta aatatgtaaa gattcttcaa ggtaacaagg gtttggggttt 900  
tgaaataaac atctggatct tatagaccgt tcatacaatg gttttagcaa 950  
gttcatagta agacaaacaa gtcctatctt ttttttttgg ctgggggtggg 1000  
ggcattgggc acatatgacc agtaattgaa agacgtcatc actgaaagac 1050  
agaatgccat ctgggcatac aaataagaag tttgtcacag cactcaggat 1100  
tttgggtatc tttttagct cacataaaga acttcagtgc ttttcagagc 1150  
tgatataatc ttaattacta atgccacaca gaaattatac aatcaaacta 1200  
gatctgaagc ataatttaag aaaaacatca acattttttg tgcttttaaac 1250  
tgtagtagtt ggtctagaaa caaaatactc c 1281

<210> 416  
<211> 208  
<212> PRT  
<213> Homo sapiens

<400> 416  
Met Gly Leu Gly Ala Arg Gly Ala Trp Ala Ala Leu Leu Leu Gly  
1 5 10 15  
Thr Leu Gln Val Leu Ala Leu Leu Gly Ala Ala His Glu Ser Ala  
20 25 30  
Ala Met Ala Ala Ser Ala Asn Ile Glu Asn Ser Gly Leu Pro His  
35 40 45  
Asn Ser Ser Ala Asn Ser Thr Glu Thr Leu Gln His Val Pro Ser  
50 55 60  
Asp His Thr Asn Glu Thr Ser Asn Ser Thr Val Lys Pro Pro Thr  
65 70 75  
Ser Val Ala Ser Asp Ser Ser Asn Thr Thr Val Thr Thr Met Lys  
80 85 90  
Pro Thr Ala Ala Ser Asn Thr Thr Thr Pro Gly Met Val Ser Thr  
95 100 105  
Asn Met Thr Ser Thr Thr Leu Lys Ser Thr Pro Lys Thr Thr Ser  
110 115 120  
Val Ser Gln Asn Thr Ser Gln Ile Ser Thr Ser Thr Met Thr Val

	125		130		135
Thr His Asn Ser	Ser Val Thr Ser Ala	Ala Ser Ser Val Thr	Ile		
	140		145		150
Thr Thr Thr Met	His Ser Glu Ala Lys	Lys Gly Ser Lys Phe	Asp		
	155		160		165
Thr Gly Ser Phe	Val Gly Gly Ile Val	Leu Thr Leu Gly Val	Leu		
	170		175		180
Ser Ile Leu Tyr	Ile Gly Cys Lys Met	Tyr Tyr Ser Arg Arg	Gly		
	185		190		195
Ile Arg Tyr Arg	Thr Ile Asp Glu His	Asp Ala Ile Ile			
	200		205		

<210> 417  
 <211> 1728  
 <212> DNA  
 <213> Homo sapiens

<400> 417  
 cagccgggtc ccaagcctgt gcctgagcct gagcctgagc ctgagcccga 50  
 gccgggagcc ggtcgcgggg gtcctgggct gtgggaccgc tggggcccca 100  
 gcgatggcga ccctgtgggg aggccttctt cggttggct ccttgctcag 150  
 cctgtcgtgc ctggcgcttt ccgtgctgct gctggcgag ctgtcagacg 200  
 ccgccaagaa tttcgaggat gtcagatgta aatgtatctg cctccctat 250  
 aaagaaaatt ctgggcatat ttataataag aacatatctc agaaagattc 300  
 tgattgcctt catgtttgtg agcccatgcc tgtgcggggg cctgatgtag 350  
 aagcatactg tctacgctgt gaatgcaaat atgaagaaag aagctctgtc 400  
 acaatcaagg ttaccattat aatttatctc tccatttttg gccttctact 450  
 tctgtacatg gtatatctta ctctggttga gccatactg aagaggcgcc 500  
 tctttggaca tgcacagttg atacagagtg atgatgatat tggggatcac 550  
 cagccttttg caaatgcaca cgatgtgcta gcccgctccc gcagtcgagc 600  
 caacgtgctg aacaaggtag aatatgcaca gcagcgctgg aagcttcaag 650  
 tccaagagca gcgaaagtct gtctttgacc ggcattgtgt cctcagctaa 700  
 ttgggaattg aattcaagg gactagaaag aaacaggcag acaactggaa 750  
 agaactgact gggttttgct gggtttcatt ttaatacctt gttgatttca 800  
 ccaactgttg ctggaagatt caaaactgga agcaaaaact tgcttgattt 850  
 ttttttcttg ttaacgtaat aatagagaca tttttaaaag cacacagctc 900  
 aaagtcagcc aataagtctt ttctatttg tgacttttac taataaaaat 950  
 aaatctgcct gtaaattatc ttgaagtcct ttacctggaa caagcactct 1000

ctttttcacc acatagtttt aacttgactt tcaagataat tttcaggggtt 1050  
 tttgttggtt ttgttttttg tttgtttgtt ttggtgggag aggggagggg 1100  
 tgcctgggaa gtggttaaca acttttttca agtcacttta ctaaacaaac 1150  
 ttttgtaaag agaccttacc ttctattttc gagtttcatt tatattttgc 1200  
 agtgtagcca gcctcatcaa agagctgact tactcatttg acttttgcac 1250  
 tgactgtatt atctgggtat ctgctgtgtc tgcacttcat ggtaaacggg 1300  
 atctaaaatg cctggtggct tttcacaaaa agcagatttt cttcatgtac 1350  
 tgtgatgtct gatgcaatgc atcctagaac aaactggcca tttgctagtt 1400  
 tactctaaag actaaacata gtcttggtgt gtgtggtctt actcatcttc 1450  
 tagtaccttt aaggacaaat cctaaggact tggacacttg caataaagaa 1500  
 attttatttt aaaccaagc ctccctggat tgataatata tacacatttg 1550  
 tcagcatttc cggctcgtgt gagaggcagc tgtttgagct ccaatatgtg 1600  
 cagctttgaa ctagggctgg gggtgtgggt gcctcttctg aaaggtctaa 1650  
 ccattattgg ataactggct tttttcttcc tatgtcctct ttggaatgta 1700  
 acaataaaaa taatttttga aacatcaa 1728

<210> 418  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 418  
 Met Ala Thr Leu Trp Gly Gly Leu Leu Arg Leu Gly Ser Leu Leu  
 1 5 10 15  
 Ser Leu Ser Cys Leu Ala Leu Ser Val Leu Leu Leu Ala Gln Leu  
 20 25 30  
 Ser Asp Ala Ala Lys Asn Phe Glu Asp Val Arg Cys Lys Cys Ile  
 35 40 45  
 Cys Pro Pro Tyr Lys Glu Asn Ser Gly His Ile Tyr Asn Lys Asn  
 50 55 60  
 Ile Ser Gln Lys Asp Cys Asp Cys Leu His Val Val Glu Pro Met  
 65 70 75  
 Pro Val Arg Gly Pro Asp Val Glu Ala Tyr Cys Leu Arg Cys Glu  
 80 85 90  
 Cys Lys Tyr Glu Glu Arg Ser Ser Val Thr Ile Lys Val Thr Ile  
 95 100 105  
 Ile Ile Tyr Leu Ser Ile Leu Gly Leu Leu Leu Tyr Met Val  
 110 115 120  
 Tyr Leu Thr Leu Val Glu Pro Ile Leu Lys Arg Arg Leu Phe Gly  
 125 130 135

His Ala Gln Leu Ile Gln Ser Asp Asp Asp Ile Gly Asp His Gln  
140 145 150

Pro Phe Ala Asn Ala His Asp Val Leu Ala Arg Ser Arg Ser Arg  
155 160 165

Ala Asn Val Leu Asn Lys Val Glu Tyr Ala Gln Gln Arg Trp Lys  
170 175 180

Leu Gln Val Gln Glu Gln Arg Lys Ser Val Phe Asp Arg His Val  
185 190 195

Val Leu Ser

<210> 419  
<211> 681  
<212> DNA  
<213> Homo sapiens

<400> 419  
gcacctgcga ccaccgtgag cagtcattggc gtactccaca gtgcagagag 50  
tcgctctggc ttctgggctt gtcctggctc tgctgctgct gctgcccaag 100  
gccttcctgt cccgcgggaa gcggcaggag ccgccgccga cacctgaagg 150  
aaaattgggc cgatttccac ctatgatgca tcatcaccag gcaccctcag 200  
atggccagac tcctggggct cgtttccaga ggtctcacct tgccgaggca 250  
tttgcaaagg ccaaaggatc aggtggagggt gctggaggag gaggtagtgg 300  
aagagggtctg atggggcaga ttattccaat ctacggtttt gggatttttt 350  
tatatatact gtacattcta tttaaggtaa gtagaatcat cctaatacata 400  
ttacatcaat gaaaatctaa tatggcgata aaaatcattg tctacattaa 450  
aacttccttat agttcataaa attatttcaa atccatcatc tctttaaatc 500  
ctgcctcctc ttcattgagg acttaggata gccattattt cagtttcaca 550  
taagaatggt tactcaatgt ttaagtgttt tgccccaaaa ttcacaacta 600  
acaaggcaga actaggactt gaacatggat cttttggttc ttaatccagt 650  
gagtgatata attcaatgca ctcccctgcc a 681

<210> 420  
<211> 128  
<212> PRT  
<213> Homo sapiens

<400> 420  
Met Ala Tyr Ser Thr Val Gln Arg Val Ala Leu Ala Ser Gly Leu  
1 5 10 15

Val Leu Ala Leu Ser Leu Leu Leu Pro Lys Ala Phe Leu Ser Arg  
20 25 30

Gly Lys Arg Gln Glu Pro Pro Pro Thr Pro Glu Gly Lys Leu Gly  
35 40 45

Arg Phe Pro Pro Met Met His His His Gln Ala Pro Ser Asp Gly  
50 55 60  
Gln Thr Pro Gly Ala Arg Phe Gln Arg Ser His Leu Ala Glu Ala  
65 70 75  
Phe Ala Lys Ala Lys Gly Ser Gly Gly Gly Ala Gly Gly Gly Gly  
80 85 90  
Ser Gly Arg Gly Leu Met Gly Gln Ile Ile Pro Ile Tyr Gly Phe  
95 100 105  
Gly Ile Phe Leu Tyr Ile Leu Tyr Ile Leu Phe Lys Val Ser Arg  
110 115 120  
Ile Ile Leu Ile Ile Leu His Gln  
125

<210> 421  
<211> 1630  
<212> DNA  
<213> Homo sapiens

<400> 421  
cggctcgagt gcagctgtgg ggagatttca gtgcattgcc tcccctgggt 50  
gctcttcattc ttggatttga aagttgagag cagcatgttt tgcccactga 100  
aactcatcct gctgccagtg ttactggatt attccttggg cctgaatgac 150  
ttgaatgttt ccccgccctga gctaacagtc catgtgggtg attcagctct 200  
gatgggatgt gttttccaga gcacagaaga caaatgtata ttcaagatag 250  
actggactct gtcaccagga gagcacgcca aggacgaata tgtgctatac 300  
tattactcca atctcagtgt gcctattggg cgcttccaga accgcgtaca 350  
cttgatgggg gacatcttat gcaatgatgg ctctctcctg ctccaagatg 400  
tgcaagaggc tgaccaggga acctatatct gtgaaatccg cctcaaaggg 450  
gagagccagg tgttcaagaa ggcgggtggt ctgcatgtgc ttccagagga 500  
gccccaaagag ctcatggtcc atgtgggtgg attgattcag atgggatgtg 550  
ttttccagag cacagaagtg aaacacgtga ccaaggtaga atggatattt 600  
tcaggacggc ggcgaaagga ggagattgta tttcgttact accacaaact 650  
caggatgtct gtggagtact ccagagctg gggccacttc cagaatcgtg 700  
tgaacctggt gggggacatt ttccgcaatg acggttccat catgcttcaa 750  
ggagtgaggg agtcagatgg aggaaactac acctgcagta tccacctagg 800  
gaacctggtg ttcaagaaaa ccattgtgct gcatgtcagc ccggaagagc 850  
ctogaacact ggtgaccccg gcagccctga ggcctctggt cttgggtggt 900  
aatcagttgg tgatcattgt gggaattgtc tgtgccacaa tctgtgtgct 950  
ccctgttctg atattgatcg tgaagaagac ctgtggaaat aagagttcag 1000



tgaattctac agtcttgggtg aagaacacga agaagactaa tccagagata 1050  
aaagaaaaac cctgccattt tgaaagatgt gaaggggaga aacacattta 1100  
ctccccaata attgtacggg aggtgatcga ggaagaagaa ccaagtgaaa 1150  
aatcagaggc cacctacatg accatgcacc cagtttggcc ttctctgagg 1200  
tcagatcgga acaactcact tgaaaaaaag tcaggtgggg gaatgccaaa 1250  
aacacagcaa gccttttgag aagaatggag agtcccttca tctcagcagc 1300  
ggtggagact ctctcctgtg tgtgtcctgg gccactctac cagtgatttc 1350  
agactccgc tctcccagct gtccctcctgt ctcatgttt ggtcaatata 1400  
ctgaagatgg agaatttggg gcctggcaga gagactggac agctctggag 1450  
gaacaggcct gctgagggga ggggagcatg gacttggcct ctggagtggg 1500  
acactggccc tgggaaccag gctgagctga gtggcctcaa accccccgtt 1550  
ggatcagacc ctctgtggg cagggttctt agtggatgag ttactgggaa 1600  
gaatcagaga taaaaaccaa cccaaatcaa 1630

<210> 422  
<211> 394  
<212> PRT  
<213> Homo sapiens

<400> 422  
Met Phe Cys Pro Leu Lys Leu Ile Leu Leu Pro Val Leu Leu Asp  
1 5 10 15  
Tyr Ser Leu Gly Leu Asn Asp Leu Asn Val Ser Pro Pro Glu Leu  
20 25 30  
Thr Val His Val Gly Asp Ser Ala Leu Met Gly Cys Val Phe Gln  
35 40 45  
Ser Thr Glu Asp Lys Cys Ile Phe Lys Ile Asp Trp Thr Leu Ser  
50 55 60  
Pro Gly Glu His Ala Lys Asp Glu Tyr Val Leu Tyr Tyr Tyr Ser  
65 70 75  
Asn Leu Ser Val Pro Ile Gly Arg Phe Gln Asn Arg Val His Leu  
80 85 90  
Met Gly Asp Ile Leu Cys Asn Asp Gly Ser Leu Leu Leu Gln Asp  
95 100 105  
Val Gln Glu Ala Asp Gln Gly Thr Tyr Ile Cys Glu Ile Arg Leu  
110 115 120  
Lys Gly Glu Ser Gln Val Phe Lys Lys Ala Val Val Leu His Val  
125 130 135  
Leu Pro Glu Glu Pro Lys Glu Leu Met Val His Val Gly Gly Leu  
140 145 150  
Ile Gln Met Gly Cys Val Phe Gln Ser Thr Glu Val Lys His Val

	155	160	165
Thr Lys Val Glu Trp Ile Phe Ser Gly Arg Arg Ala Lys Glu Glu	170	175	180
Ile Val Phe Arg Tyr Tyr His Lys Leu Arg Met Ser Val Glu Tyr	185	190	195
Ser Gln Ser Trp Gly His Phe Gln Asn Arg Val Asn Leu Val Gly	200	205	210
Asp Ile Phe Arg Asn Asp Gly Ser Ile Met Leu Gln Gly Val Arg	215	220	225
Glu Ser Asp Gly Gly Asn Tyr Thr Cys Ser Ile His Leu Gly Asn	230	235	240
Leu Val Phe Lys Lys Thr Ile Val Leu His Val Ser Pro Glu Glu	245	250	255
Pro Arg Thr Leu Val Thr Pro Ala Ala Leu Arg Pro Leu Val Leu	260	265	270
Gly Gly Asn Gln Leu Val Ile Ile Val Gly Ile Val Cys Ala Thr	275	280	285
Ile Leu Leu Leu Pro Val Leu Ile Leu Ile Val Lys Lys Thr Cys	290	295	300
Gly Asn Lys Ser Ser Val Asn Ser Thr Val Leu Val Lys Asn Thr	305	310	315
Lys Lys Thr Asn Pro Glu Ile Lys Glu Lys Pro Cys His Phe Glu	320	325	330
Arg Cys Glu Gly Glu Lys His Ile Tyr Ser Pro Ile Ile Val Arg	335	340	345
Glu Val Ile Glu Glu Glu Pro Ser Glu Lys Ser Glu Ala Thr	350	355	360
Tyr Met Thr Met His Pro Val Trp Pro Ser Leu Arg Ser Asp Arg	365	370	375
Asn Asn Ser Leu Glu Lys Lys Ser Gly Gly Gly Met Pro Lys Thr	380	385	390
Gln Gln Ala Phe			

<210> 423  
 <211> 963  
 <212> DNA  
 <213> Homo sapiens

<400> 423  
 ctatgaagaa gcttcctgga aaacaataag caaaggaaaa caaatgtgtc 50  
 ccatctcaca tggttctacc ctactaaaga caggaagatc ataaactgac 100  
 agataactgaa attgtaagag ttggaaacta cattttgcaa agtcattgaa 150  
 ctctgagctc agttgcagta ctcgggaagc catgcaggat gaagatggat 200

acatcacctt aaatattaaa actcggaac cagctctcgt ctccgttggc 250  
 cctgcatect cctcctggtg gcgtgtgatg gctttgattc tgctgacact 300  
 gtgcgtgggg atggttgtcg ggctggtggc tctggggatt tgggtctgtca 350  
 tgcagcgcaa ttacctacaa gatgagaatg aaaatcgcac aggaactctg 400  
 caacaattag caaagcgctt ctgtcaatat gtggtaaaac aatcagaact 450  
 aaagggcact ttcaaaggtc ataaatgcag cccctgtgac acaaactgga 500  
 gatattatgg agatagctgc tatgggttct tcaggcacia cttaacatgg 550  
 gaagagagta agcagtactg cactgacatg aatgctactc tcctgaagat 600  
 tgacaaccgg aacattgtgg agtacatcaa agccaggact catttaattc 650  
 gttgggtcgg attatctcgc cagaagtcga atgaggtctg gaagtgggag 700  
 gatggctcgg ttatctcaga aaatatgttt gagtttttgg aagatggaaa 750  
 aggaaatatg aattgtgctt attttcataa tgggaaaatg caccctacct 800  
 tctgtgagaa caaacattat ttaatgtgtg agaggaaggc tggcatgacc 850  
 aaggtggacc aactacctta atgcaaagag gtggacagga taacacagat 900  
 aagggtctta ttgtacaata aaagatatgt atgaatgcat cagtagctga 950  
 aaaaaaaaaa aaa 963

<210> 424  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 424  
 Met Gln Asp Glu Asp Gly Tyr Ile Thr Leu Asn Ile Lys Thr Arg  
 1 5 10 15  
 Lys Pro Ala Leu Val Ser Val Gly Pro Ala Ser Ser Ser Trp Trp  
 20 25 30  
 Arg Val Met Ala Leu Ile Leu Leu Ile Leu Cys Val Gly Met Val  
 35 40 45  
 Val Gly Leu Val Ala Leu Gly Ile Trp Ser Val Met Gln Arg Asn  
 50 55 60  
 Tyr Leu Gln Asp Glu Asn Glu Asn Arg Thr Gly Thr Leu Gln Gln  
 65 70 75  
 Leu Ala Lys Arg Phe Cys Gln Tyr Val Val Lys Gln Ser Glu Leu  
 80 85 90  
 Lys Gly Thr Phe Lys Gly His Lys Cys Ser Pro Cys Asp Thr Asn  
 95 100 105  
 Trp Arg Tyr Tyr Gly Asp Ser Cys Tyr Gly Phe Phe Arg His Asn  
 110 115 120  
 Leu Thr Trp Glu Glu Ser Lys Gln Tyr Cys Thr Asp Met Asn Ala

	125		130		135
Thr Leu Leu Lys	Ile Asp Asn Arg Asn	Ile Val Glu Tyr Ile	Lys		
	140	145	150		
Ala Arg Thr His	Leu Ile Arg Trp Val	Gly Leu Ser Arg Gln	Lys		
	155	160	165		
Ser Asn Glu Val	Trp Lys Trp Glu Asp	Gly Ser Val Ile Ser	Glu		
	170	175	180		
Asn Met Phe Glu	Phe Leu Glu Asp Gly	Lys Gly Asn Met Asn	Cys		
	185	190	195		
Ala Tyr Phe His	Asn Gly Lys Met His	Pro Thr Phe Cys Glu	Asn		
	200	205	210		
Lys His Tyr Leu	Met Cys Glu Arg Lys	Ala Gly Met Thr Lys	Val		
	215	220	225		
Asp Gln Leu Pro					

<210> 425  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 425  
 tgcagcccct gtgacacaaa ctgg 24

<210> 426  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 426  
 ctgagataac cgagccatcc tccac 26

<210> 427  
 <211> 49  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 427  
 gcttcctgac actaaggctg tctgctagtc agaattgcct caaaaagag 49

<210> 428  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 428  
ccaccaatgg cagccccacc t 21

<210> 429  
<211> 17  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 429  
gactgccctc cctgcca 17

<210> 430  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 430  
caaaaagcct ggaagtcttc aaag 24

<210> 431  
<211> 20  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 431  
cagctggact gcaggtgcta 20

<210> 432  
<211> 22  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 432  
cagtgagcac agcaagtgtc ct 22

<210> 433  
<211> 28  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 433  
ggccacctcc ttgagtcttc agttccct 28

<210> 434  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 434  
caactactgg ctaaagctgg tgaa 24

<210> 435  
<211> 27  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 435  
cctttctgta taggtgatac ccaatga 27

<210> 436  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 436  
tgccatccc taccagaggc aaaa 24

<210> 437  
<211> 22  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 437  
ctgaagacga cgcggattac ta 22

<210> 438  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 438  
ggcagaaatg ggaggcaga 19

<210> 439  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 439  
tgctctgttg gctacggctt tagtccctag 30

<210> 440  
<211> 22

<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 440  
 agcagcagcc atgtagaatg aa 22  
  
 <210> 441  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 441  
 aatacgaaca gtgcacgctg at 22  
  
 <210> 442  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
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 <400> 442  
 tccagagagc caagcacggc aga 23  
  
 <210> 443  
 <211> 22  
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 <223> Synthetic oligonucleotide probe  
  
 <400> 443  
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 <210> 444  
 <211> 23  
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 <223> Synthetic oligonucleotide probe  
  
 <400> 444  
 cctggctcta gcaccaactc ata 23  
  
 <210> 445  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 445  
 tcagtggccc taaggagatg ggcct 25

<210> 446  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
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 <223> Synthetic oligonucleotide probe  
  
 <400> 446  
 caggatacag tgggaatctt gaga 24  
  
 <210> 447  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
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 <400> 447  
 cctgaagggc ttggagctta gt 22  
  
 <210> 448  
 <211> 24  
 <212> DNA  
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 <223> Synthetic oligonucleotide probe  
  
 <400> 448  
 tctttggcca tttcccatgg ctca 24  
  
 <210> 449  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
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 <400> 449  
 cccatggcga ggaggaat 18  
  
 <210> 450  
 <211> 19  
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 <213> Artificial Sequence  
  
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 <210> 451  
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<400> 451  
cagcacccca ggcagtctgt gtgt 24

<210> 452  
<211> 24  
<212> DNA  
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<223> Synthetic oligonucleotide probe

<400> 452  
aacgtgctac acgaccagtg tact 24

<210> 453  
<211> 27  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 453  
cacagcatat tcagatgact aaatcca 27

<210> 454  
<211> 31  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 454  
ttgttttagtt ctccaccgtg tctccacaga a 31

<210> 455  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 455  
tgtcagaatg caacctggct t 21

<210> 456  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 456  
tgatgtgcct ggctcagaac 20

<210> 457  
<211> 24  
<212> DNA  
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<220>
<223> Synthetic oligonucleotide probe

<400> 457
    tgcacctaga tgtccccagc accc 24

<210> 458
<211> 20
<212> DNA
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<220>
<223> Synthetic oligonucleotide probe

<400> 458
    aagatgcgcc aggcttctta 20

<210> 459
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 459
    ctctgtacg gtctgtcac ttat 24

<210> 460
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
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<400> 460
    tggctgtcag tccagtgtgc atgg 24

<210> 461
<211> 29
<212> DNA
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<400> 461
    gcatagggat agataagatc ctgctttat 29

<210> 462
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
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<400> 462
    caaattaaag tacccatcag gagagaa 27

<210> 463
<211> 37

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<212> DNA  
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 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 463  
 aagttgctaa atatatacat tatctgcgcc aagtcca 37  
  
 <210> 464  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 464  
 gtgctgcca caattcatga 20  
  
 <210> 465  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
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 <223> Synthetic oligonucleotide probe  
  
 <400> 465  
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 <210> 466  
 <211> 31  
 <212> DNA  
 <213> Artificial Sequence  
  
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 <223> Synthetic oligonucleotide probe  
  
 <400> 466  
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 <210> 467  
 <211> 22  
 <212> DNA  
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 <400> 467  
 ctgaggaacc agccatgtct ct 22  
  
 <210> 468  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 468  
 gaccagatgc aggtacagga tga 23

<210> 469  
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 <212> DNA  
 <213> Artificial Sequence  
  
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 <223> Synthetic oligonucleotide probe  
  
 <400> 469  
 ctgccccttc agtgatgcca acctt 25  
  
 <210> 470  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 470  
 ggggtggaggc tcactgagta ga 22  
  
 <210> 471  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 471  
 caatacaggc aatgaaactc tgcttctt 28  
  
 <210> 472  
 <211> 36  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 472  
 tcctcttaag cataggccat tttctcagtt tagaca 36  
  
 <210> 473  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
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 <400> 473  
 ggtggtcttg cttggtctca c 21  
  
 <210> 474  
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<400> 474  
ccgtcgttca gcaacatgac 20

<210> 475  
<211> 20  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 475  
accgcctacc gctgtgcca 20

<210> 476  
<211> 23  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 476  
cagtaaaacc acaggctgga ttt 23

<210> 477  
<211> 24  
<212> DNA  
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<220>  
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<400> 477  
cctgagagca agaaggttga gaat 24

<210> 478  
<211> 22  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 478  
tagacaggga ccatggcccg ca 22

<210> 479  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 479  
tgggctgtag aagagttgtt g 21

<210> 480  
<211> 20  
<212> DNA  
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<220>  
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<400> 480  
tccacacttg gccagtttat 20

<210> 481  
<211> 24  
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<220>  
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<400> 481  
cccaacttct cccttttgga ccct 24

<210> 482  
<211> 24  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 482  
gtcccttcac tgtttagagc atga 24

<210> 483  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 483  
actctcccc tcaacagcct cctgag 26

<210> 484  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 484  
gtggtcaggg cagatccttt 20

<210> 485  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 485  
acagatccag gagagactcc aca 23

<210> 486  
<211> 21

<212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 486  
 agcggcgctc ccagcctgaa t 21

<210> 487  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 487  
 catgattggc cctcagttcc atc 23

<210> 488  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 488  
 atagagggct cccagaagtg 20

<210> 489  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 489  
 cagggccttc agggccttca c 21

<210> 490  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 490  
 gctcagccaa acactgtca 19

<210> 491  
 <211> 17  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 491  
 ggggccctga cagtgtt 17

<210> 492  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 492  
ctgagccgag actggagcat ctacac 26

<210> 493  
<211> 17  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 493  
gtgggcagcg tcttgtc 17

<210> 494  
<211> 1231  
<212> DNA  
<213> Homo Sapien

<400> 494  
cccacgcgtc cgcgcagtcg cgcagttctg cctccgcctg ccagtctcgc 50  
ccgcgatccc ggcccggggc tgtggcgctg actccgaccc aggcagccag 100  
cagcccgcgc gggagccgga ccgcgcgcgg aggagctcgg acggcatgct 150  
gagccccctc ctttgtctga gcccgagtgc ggagaagccc gggcaaacgc 200  
aggctaagga gaccaaagcg gcgaagtgc gagacagcgg acaagcagcg 250  
gaggagaagg aggaggaggc gaaccagag aggggcagca aaagaagcgg 300  
tggtggtggg cgtcgtggcc atggcggcgg ctatcgccag ctcgctcatc 350  
cgtcagaaga ggcaagcccg cgagcgcgag aaatccaacg cctgcaagtg 400  
tgtcagcagc cccagcaaag gcaagaccag ctgcgacaaa aacaagttaa 450  
atgtcttttc ccgggtcaaa ctcttcggct ccaagaagag gcgcagaaga 500  
agaccagagc ctcagcttaa gggatatagt accaagctat acagccgaca 550  
aggctaccac ttgcagctgc aggcggatgg aaccattgat ggcaccaaag 600  
atgaggacag cacttacact ctgtttaacc tcatccctgt gggctctgca 650  
gtggtggcta tccaaggagt tcaaaccaag ctgtacttgg caatgaacag 700  
tgagggatac ttgtacacct cggaactttt cacacctgag tgcaaattca 750  
aagaatcagt gtttgaaaat tattatgtga catattcatc aatgatatac 800  
cgtcagcagc agtcaggccg aggggtggtat ctgggtctga acaaagaagg 850  
agagatcatg aaaggcaacc atgtgaagaa gaacaagcct gcagctcatt 900



ttctgcctaa accactgaaa gtggccatgt acaaggagcc atcactgcac 950  
gatctcacgg agttctcccg atctggaagc gggaccccaa ccaagagcag 1000  
aagtgtctct ggcgtgctga acggaggcaa atccatgagc cacaatgaat 1050  
caacgtagcc agtgagggca aaagaagggc tctgtaacag aaccttacct 1100  
ccagggtctg ttgaattctt ctagcagtc ttcacccaaa agttcaaatt 1150  
tgtcagtgac atttaccaaa caaacaggca gagttcacta ttctatctgc 1200  
cattagacct tcttatcatc cataactaaag c 1231

<210> 495  
<211> 245  
<212> PRT  
<213> Homo Sapien

<400> 495  
Met Ala Ala Ala Ile Ala Ser Ser Leu Ile Arg Gln Lys Arg Gln  
1 5 10 15  
Ala Arg Glu Arg Glu Lys Ser Asn Ala Cys Lys Cys Val Ser Ser  
20 25 30  
Pro Ser Lys Gly Lys Thr Ser Cys Asp Lys Asn Lys Leu Asn Val  
35 40 45  
Phe Ser Arg Val Lys Leu Phe Gly Ser Lys Lys Arg Arg Arg Arg  
50 55 60  
Arg Pro Glu Pro Gln Leu Lys Gly Ile Val Thr Lys Leu Tyr Ser  
65 70 75  
Arg Gln Gly Tyr His Leu Gln Leu Gln Ala Asp Gly Thr Ile Asp  
80 85 90  
Gly Thr Lys Asp Glu Asp Ser Thr Tyr Thr Leu Phe Asn Leu Ile  
95 100 105  
Pro Val Gly Leu Arg Val Val Ala Ile Gln Gly Val Gln Thr Lys  
110 115 120  
Leu Tyr Leu Ala Met Asn Ser Glu Gly Tyr Leu Tyr Thr Ser Glu  
125 130 135  
Leu Phe Thr Pro Glu Cys Lys Phe Lys Glu Ser Val Phe Glu Asn  
140 145 150  
Tyr Tyr Val Thr Tyr Ser Ser Met Ile Tyr Arg Gln Gln Gln Ser  
155 160 165  
Gly Arg Gly Trp Tyr Leu Gly Leu Asn Lys Glu Gly Glu Ile Met  
170 175 180  
Lys Gly Asn His Val Lys Lys Asn Lys Pro Ala Ala His Phe Leu  
185 190 195  
Pro Lys Pro Leu Lys Val Ala Met Tyr Lys Glu Pro Ser Leu His  
200 205 210  
Asp Leu Thr Glu Phe Ser Arg Ser Gly Ser Gly Thr Pro Thr Lys

	215		220		225
Ser Arg Ser Val	Ser Gly Val Leu Asn Gly Gly Lys Ser Met Ser				
	230		235		240
His Asn Glu Ser	Thr				
	245				

<210> 496  
 <211> 1471  
 <212> DNA  
 <213> Homo Sapien

<400> 496  
 ccaggatgga gctggggcct gtatagccat attattgttc tatgctacta 50  
 gacatggggg ggacttggtg aaaaaggat tatccagcca gaggggtctgg 100  
 gagccctgtc ttactgaacc tgggcaacct ggatattctg agacatattt 150  
 tggggggatt tcagtgaaaa aagtggggga tcccctccat ttagagtgtg 200  
 gcaaaggaaa aaacaccaag gttgggttcc ttcctgacat tggcagtgcc 250  
 ccagtagggg tgggatgagc gaatatcc aaagctaaag tcccacaccc 300  
 ttagattac aagagtggat ttggcaggag tgtgccccaa aatacagtgg 350  
 aaaggtgcct gaagatattt aaaccacgtc ttggaaattt agtgggtctt 400  
 ggctttggga taggtgaagt gaggacagac actggagagg agggaaagg 450  
 gacgttttca ataggaggca aaactcgagg gtgggatcca ctgaggagta 500  
 cataggctgc tggatctggt ggagccagca ctgggcccac ggggtgtaac 550  
 tggctgctgt ggaggggggt acgtgagggg ggggtctggg gcttatcctc 600  
 aggtcctgtg ggtggggcag cgagtcgggg cctgagcgtc aagagcatgc 650  
 cctagtgagc gggctcctct gggggagccc agcgcgctcc gggcgctgc 700  
 cggtttgggg gtgtctctct ccggggcgct atggcgggcg tggccagtag 750  
 cctgatccgg cagaagcggg aggtccgcga gcccgggggc agccggccgg 800  
 tgtcggcgca gcggcgcgtg tgtccccg cgaccaagtc cctttgccag 850  
 aagcagctcc tcatcctgct gtccaagggt cgactgtgcg gggggcggcc 900  
 cgcgcgggcg gaccgcggcc cggagcctca gctcaaaggc atcgtcacca 950  
 aactgttctg ccgccagggt ttctacctcc aggcgaatcc cgacggaagc 1000  
 atccagggca cccagagga taccagctcc ttcacccact tcaacctgat 1050  
 ccctgtgggc ctccgtgtgg tcaccatcca gagcgccaag ctgggtcact 1100  
 acatggccat gaatgctgag ggactgctct acagttcgcc gcatttcaca 1150  
 gctgagtgtc gctttaagga gtgtgtcttt gagaattact acgtcctgta 1200  
 cgcctctgct ctctaccgcc agcgtcgttc tggccggggc tggtagctcg 1250

gcctggacaa ggagggccag gtcataaagg gaaaccgagt taagaagacc 1300  
aaggcagctg cccactttct gcccagctc ctggaggtgg ccatgtacca 1350  
ggagccttct ctccacagtg tccccgaggc ctccccttcc agtccccctg 1400  
ccccctgaaa tgtagtccct ggactggagg ttccctgcac tcccagtgag 1450  
ccagccacca ccacaacctg t 1471

<210> 497  
<211> 225  
<212> PRT  
<213> Homo Sapien

<400> 497  
Met Ala Ala Leu Ala Ser Ser Leu Ile Arg Gln Lys Arg Glu Val  
1 5 10 15  
Arg Glu Pro Gly Gly Ser Arg Pro Val Ser Ala Gln Arg Arg Val  
20 25 30  
Cys Pro Arg Gly Thr Lys Ser Leu Cys Gln Lys Gln Leu Leu Ile  
35 40 45  
Leu Leu Ser Lys Val Arg Leu Cys Gly Gly Arg Pro Ala Arg Pro  
50 55 60  
Asp Arg Gly Pro Glu Pro Gln Leu Lys Gly Ile Val Thr Lys Leu  
65 70 75  
Phe Cys Arg Gln Gly Phe Tyr Leu Gln Ala Asn Pro Asp Gly Ser  
80 85 90  
Ile Gln Gly Thr Pro Glu Asp Thr Ser Ser Phe Thr His Phe Asn  
95 100 105  
Leu Ile Pro Val Gly Leu Arg Val Val Thr Ile Gln Ser Ala Lys  
110 115 120  
Leu Gly His Tyr Met Ala Met Asn Ala Glu Gly Leu Leu Tyr Ser  
125 130 135  
Ser Pro His Phe Thr Ala Glu Cys Arg Phe Lys Glu Cys Val Phe  
140 145 150  
Glu Asn Tyr Tyr Val Leu Tyr Ala Ser Ala Leu Tyr Arg Gln Arg  
155 160 165  
Arg Ser Gly Arg Ala Trp Tyr Leu Gly Leu Asp Lys Glu Gly Gln  
170 175 180  
Val Met Lys Gly Asn Arg Val Lys Lys Thr Lys Ala Ala Ala His  
185 190 195  
Phe Leu Pro Lys Leu Leu Glu Val Ala Met Tyr Gln Glu Pro Ser  
200 205 210  
Leu His Ser Val Pro Glu Ala Ser Pro Ser Ser Pro Pro Ala Pro  
215 220 225

<210> 498  
<211> 744

<212> DNA  
<213> Homo Sapien

<400> 498  
atggccgcgg ccacgcctag cggcttgatc cgccagaagc ggcaggcgcg 50  
ggagcagcac tgggaccggc cgtctgccag caggaggcgg agcagcccca 100  
gcaagaaccg cgggctctgc aacggcaacc tgggtgatat cttctccaaa 150  
gtgcgcacat tgcgcctcaa gaagcgcagg ttgcggcgcc aagatcccca 200  
gctcaagggt atagtgacca gggttatattg caggcaaggc tactacttgc 250  
aaatgcaccc cgatggagct ctgatggaa ccaaggatga cagcactaat 300  
tctacactct tcaacctcat accagtggga ctacgtgttg ttgccatcca 350  
gggagtgaac acagggttgt atatagccat gaatggagaa gggtacctct 400  
acccatcaga actttttacc cctgaatgca agtttaaga atctgttttt 450  
gaaaattatt atgtaatact ctcatccatg ttgtacagac aacaggaatc 500  
tggttagagc tgggtttttg gattaaataa ggaagggcaa gctatgaaag 550  
ggaacagagt aaagaaaacc aaaccagcag ctcatcttct acccaagcca 600  
ttggaagttg ccatgtaccg agaaccatct ttgcatgatg ttggggaaac 650  
ggtcccgaag cctgggggtga cgccaagtaa aagcacaagt gcgtctgcaa 700  
taatgaatgg aggcaaacca gtcaacaaga gtaagacaac atag 744

<210> 499  
<211> 247  
<212> PRT  
<213> Homo Sapien

<400> 499  
Met Ala Ala Ala Ile Ala Ser Gly Leu Ile Arg Gln Lys Arg Gln  
1 5 10 15  
Ala Arg Glu Gln His Trp Asp Arg Pro Ser Ala Ser Arg Arg Arg  
20 25 30  
Ser Ser Pro Ser Lys Asn Arg Gly Leu Cys Asn Gly Asn Leu Val  
35 40 45  
Asp Ile Phe Ser Lys Val Arg Ile Phe Gly Leu Lys Lys Arg Arg  
50 55 60  
Leu Arg Arg Gln Asp Pro Gln Leu Lys Gly Ile Val Thr Arg Leu  
65 70 75  
Tyr Cys Arg Gln Gly Tyr Tyr Leu Gln Met His Pro Asp Gly Ala  
80 85 90  
Leu Asp Gly Thr Lys Asp Asp Ser Thr Asn Ser Thr Leu Phe Asn  
95 100 105  
Leu Ile Pro Val Gly Leu Arg Val Val Ala Ile Gln Gly Val Lys  
110 115 120

Thr	Gly	Leu	Tyr	Ile	Ala	Met	Asn	Gly	Glu	Gly	Tyr	Leu	Tyr	Pro
				125					130					135
Ser	Glu	Leu	Phe	Thr	Pro	Glu	Cys	Lys	Phe	Lys	Glu	Ser	Val	Phe
				140					145					150
Glu	Asn	Tyr	Tyr	Val	Ile	Tyr	Ser	Ser	Met	Leu	Tyr	Arg	Gln	Gln
				155					160					165
Glu	Ser	Gly	Arg	Ala	Trp	Phe	Leu	Gly	Leu	Asn	Lys	Glu	Gly	Gln
				170					175					180
Ala	Met	Lys	Gly	Asn	Arg	Val	Lys	Lys	Thr	Lys	Pro	Ala	Ala	His
				185					190					195
Phe	Leu	Pro	Lys	Pro	Leu	Glu	Val	Ala	Met	Tyr	Arg	Glu	Pro	Ser
				200					205					210
Leu	His	Asp	Val	Gly	Glu	Thr	Val	Pro	Lys	Pro	Gly	Val	Thr	Pro
				215					220					225
Ser	Lys	Ser	Thr	Ser	Ala	Ser	Ala	Ile	Met	Asn	Gly	Gly	Lys	Pro
				230					235					240
Val	Asn	Lys	Ser	Lys	Thr	Thr								
				245										

<210> 500  
 <211> 2906  
 <212> DNA  
 <213> Homo Sapien

<400> 500  
 ggggagagga attgaccatg taaaaggaga cttttttttt tgggtggtggt 50  
 ggctgttggg tgccttgcaa aatgaagga tgcaggacgc agctttctcc 100  
 tggaaccgaa cgcaatggat aaactgattg tgcaagagag aaggaagaac 150  
 gaagcttttt cttgtgagcc ctggatctta acacaaatgt gtatatgtgc 200  
 acacagggag cattcaagaa tgaaataaac cagagttaga cccgcggggg 250  
 ttggtgtggt ctgacataaa taaataatct taaagcagct gttcccctcc 300  
 ccacccccaa aaaaaaggat gattggaaat gaagaaccga ggattcaca 350  
 agaaaaaagt atgttcattt ttctctataa aggagaaagt gagccaagga 400  
 gatatttttg gaatgaaaag tttggggcct ttttagtaaa gtaaagaact 450  
 ggtgtggtgg tgttttcctt tctttttgaa tttcccacaa gaggagagga 500  
 aattaataat acatctgcaa agaaatttca gagaagaaaa gttgaccgog 550  
 gcagattgag gcattgattg ggggagagaa accagcagag cacagttgga 600  
 tttgtgccta tgttgactaa aattgacgga taattgcagt tggatttttc 650  
 ttcacaaacc tccttttttt taaattttta ttccttttgg tatcaagatc 700  
 atgcgttttc tcttgttctt aaccacctgg atttccatct ggatgttgct 750

gtgatcagtc tgaaatacaa ctgtttgaat tccagaagga ccaacaccag 800  
ataaattatg aatgttgaac aagatgacct tacatccaca gcagataatg 850  
ataggtccta ggtttaacag ggccctatatt gacccoctgc ttgtggtgct 900  
gctggctctt caacttcttg tgggtggtgg tctggtgogg gctcagacct 950  
gcccttctgt gtgctcctgc agcaaccagt tcagcaaggt gatttgtgtt 1000  
cggaaaaacc tgcgtgaggt tccggatggc atctccacca acacacggct 1050  
gctgaacctc catgagaacc aaatccagat catcaaagtg aacagcttca 1100  
agcacttgag gcacttgga atcctacagt tgagtaggaa ccatatcaga 1150  
accattgaaa ttggggcttt caatggtctg gcgaacctca acactctgga 1200  
actctttgac aatcgtctta ctaccatccc gaatggagct tttgtatact 1250  
tgtctaaact gaaggagctc tggttgcgaa acaaccccat tgaaagcatc 1300  
ccttcttatg cttttaacag aattccttct ttgcgcgac tagacttagg 1350  
ggaattgaaa agactttcat acatctcaga aggtgccttt gaaggctctgt 1400  
ccaacttgag gtatttgaac cttgccatgt gcaaccttcg ggaaatccct 1450  
aacctcacac cgctcataaa actagatgag ctggatcttt ctgggaatca 1500  
tttatctgcc atcaggcctg gctctttcca gggtttgatg caccttcaaa 1550  
aactgtggat gatacagtcc cagattcaag tgattgaacg gaatgccttt 1600  
gacaaccttc agtcactagt ggagatcaac ctggcacaca ataatctaac 1650  
attactgcct catgacctct tcactccctt gcatcatcta gagcggatac 1700  
atttacatca caacccttgg aactgtaact gtgacatact gtggctcagc 1750  
tgggtgataa aagacatggc cccctcgaac acagcttggt gtgcccgggtg 1800  
taacactcct cccaatctaa aggggaggtta cattggagag ctcgaccaga 1850  
attacttcac atgctatgct ccggtgattg tggagcccc tgcagacctc 1900  
aatgtcactg aaggcatggc agctgagctg aaatgtcggg cctccacatc 1950  
cctgacatct gtatcttggg ttactccaaa tggaacagtc atgacacatg 2000  
gggcgtacaa agtgcgata gctgtgctca gtgatggtac gttaaatttc 2050  
acaaatgtaa ctgtgcaaga tacaggcatg tacacatgta tggtagtaaa 2100  
ttccgttggg aatactactg cttcagccac cctgaatggt actgcagcaa 2150  
ccactactcc tttctcttac ttttcaaccg tcacagtaga gactatggaa 2200  
ccgtctcagg atgaggcacg gaccacagat aacaatgtgg gtccactcc 2250  
agtggctcagc tgggagacca ccaatgtgac cacctctctc acaccacaga 2300  
gcacaaggtc gacagagaaa accttcacca tcccagtgac tgatataaac 2350

agtgggatcc caggaattga tgaggtcatg aagactacca aaatcatcat 2400  
 tgggtgtttt gtggccatca cactcatggc tgcagtgatg ctggtcattt 2450  
 tctacaagat gaggaagcag caccatcggc aaaaccatca cgccccaaca 2500  
 aggactgttg aaattattaa tgtggatgat gagattacgg gagacacacc 2550  
 catggaaagc cacctgcccc tgccctgctat cgagcatgag cacctaaatc 2600  
 actataactc atacaaatct cccttcaacc acacaacaac agttaacaca 2650  
 ataaattcaa tacacagttc agtgcataaa ccgttattga tccgaatgaa 2700  
 ctctaaagac aatgtacaag agactcaaat ctaaaacatt tacagagtta 2750  
 caaaaaaaca acaatcaaaa aaaaagacag tttattaaaa atgacacaaa 2800  
 tgactgggct aaatctactg tttcaaaaaa gtgtctttac aaaaaaaca 2850  
 aaaagaaaag aaatttattt attaaaaatt ctattgtgat ctaaagcaga 2900  
 caaaaa 2906

<210> 501  
 <211> 640  
 <212> PRT  
 <213> Homo Sapien

<400> 501  
 Met Leu Asn Lys Met Thr Leu His Pro Gln Gln Ile Met Ile Gly  
 1 5 10 15  
 Pro Arg Phe Asn Arg Ala Leu Phe Asp Pro Leu Leu Val Val Leu  
 20 25 30  
 Leu Ala Leu Gln Leu Leu Val Val Ala Gly Leu Val Arg Ala Gln  
 35 40 45  
 Thr Cys Pro Ser Val Cys Ser Cys Ser Asn Gln Phe Ser Lys Val  
 50 55 60  
 Ile Cys Val Arg Lys Asn Leu Arg Glu Val Pro Asp Gly Ile Ser  
 65 70 75  
 Thr Asn Thr Arg Leu Leu Asn Leu His Glu Asn Gln Ile Gln Ile  
 80 85 90  
 Ile Lys Val Asn Ser Phe Lys His Leu Arg His Leu Glu Ile Leu  
 95 100 105  
 Gln Leu Ser Arg Asn His Ile Arg Thr Ile Glu Ile Gly Ala Phe  
 110 115 120  
 Asn Gly Leu Ala Asn Leu Asn Thr Leu Glu Leu Phe Asp Asn Arg  
 125 130 135  
 Leu Thr Thr Ile Pro Asn Gly Ala Phe Val Tyr Leu Ser Lys Leu  
 140 145 150  
 Lys Glu Leu Trp Leu Arg Asn Asn Pro Ile Glu Ser Ile Pro Ser  
 155 160 165

Tyr	Ala	Phe	Asn	Arg	Ile	Pro	Ser	Leu	Arg	Arg	Leu	Asp	Leu	Gly	
				170					175					180	
Glu	Leu	Lys	Arg	Leu	Ser	Tyr	Ile	Ser	Glu	Gly	Ala	Phe	Glu	Gly	
				185					190					195	
Leu	Ser	Asn	Leu	Arg	Tyr	Leu	Asn	Leu	Ala	Met	Cys	Asn	Leu	Arg	
				200					205					210	
Glu	Ile	Pro	Asn	Leu	Thr	Pro	Leu	Ile	Lys	Leu	Asp	Glu	Leu	Asp	
				215					220					225	
Leu	Ser	Gly	Asn	His	Leu	Ser	Ala	Ile	Arg	Pro	Gly	Ser	Phe	Gln	
				230					235					240	
Gly	Leu	Met	His	Leu	Gln	Lys	Leu	Trp	Met	Ile	Gln	Ser	Gln	Ile	
				245					250					255	
Gln	Val	Ile	Glu	Arg	Asn	Ala	Phe	Asp	Asn	Leu	Gln	Ser	Leu	Val	
				260					265					270	
Glu	Ile	Asn	Leu	Ala	His	Asn	Asn	Leu	Thr	Leu	Leu	Pro	His	Asp	
				275					280					285	
Leu	Phe	Thr	Pro	Leu	His	His	Leu	Glu	Arg	Ile	His	Leu	His	His	
				290					295					300	
Asn	Pro	Trp	Asn	Cys	Asn	Cys	Asp	Ile	Leu	Trp	Leu	Ser	Trp	Trp	
				305					310					315	
Ile	Lys	Asp	Met	Ala	Pro	Ser	Asn	Thr	Ala	Cys	Cys	Ala	Arg	Cys	
				320					325					330	
Asn	Thr	Pro	Pro	Asn	Leu	Lys	Gly	Arg	Tyr	Ile	Gly	Glu	Leu	Asp	
				335					340					345	
Gln	Asn	Tyr	Phe	Thr	Cys	Tyr	Ala	Pro	Val	Ile	Val	Glu	Pro	Pro	
				350					355					360	
Ala	Asp	Leu	Asn	Val	Thr	Glu	Gly	Met	Ala	Ala	Glu	Leu	Lys	Cys	
				365					370					375	
Arg	Ala	Ser	Thr	Ser	Leu	Thr	Ser	Val	Ser	Trp	Ile	Thr	Pro	Asn	
				380					385					390	
Gly	Thr	Val	Met	Thr	His	Gly	Ala	Tyr	Lys	Val	Arg	Ile	Ala	Val	
				395					400					405	
Leu	Ser	Asp	Gly	Thr	Leu	Asn	Phe	Thr	Asn	Val	Thr	Val	Gln	Asp	
				410					415					420	
Thr	Gly	Met	Tyr	Thr	Cys	Met	Val	Ser	Asn	Ser	Val	Gly	Asn	Thr	
				425					430					435	
Thr	Ala	Ser	Ala	Thr	Leu	Asn	Val	Thr	Ala	Ala	Thr	Thr	Thr	Pro	
				440					445					450	
Phe	Ser	Tyr	Phe	Ser	Thr	Val	Thr	Val	Glu	Thr	Met	Glu	Pro	Ser	
				455					460					465	
Gln	Asp	Glu	Ala	Arg	Thr	Thr	Asp	Asn	Asn	Val	Gly	Pro	Thr	Pro	
				470					475					480	



Val	Val	Asp	Trp	Glu	Thr	Thr	Asn	Val	Thr	Thr	Ser	Leu	Thr	Pro
				485					490					495
Gln	Ser	Thr	Arg	Ser	Thr	Glu	Lys	Thr	Phe	Thr	Ile	Pro	Val	Thr
				500					505					510
Asp	Ile	Asn	Ser	Gly	Ile	Pro	Gly	Ile	Asp	Glu	Val	Met	Lys	Thr
				515					520					525
Thr	Lys	Ile	Ile	Ile	Gly	Cys	Phe	Val	Ala	Ile	Thr	Leu	Met	Ala
				530					535					540
Ala	Val	Met	Leu	Val	Ile	Phe	Tyr	Lys	Met	Arg	Lys	Gln	His	His
				545					550					555
Arg	Gln	Asn	His	His	Ala	Pro	Thr	Arg	Thr	Val	Glu	Ile	Ile	Asn
				560					565					570
Val	Asp	Asp	Glu	Ile	Thr	Gly	Asp	Thr	Pro	Met	Glu	Ser	His	Leu
				575					580					585
Pro	Met	Pro	Ala	Ile	Glu	His	Glu	His	Leu	Asn	His	Tyr	Asn	Ser
				590					595					600
Tyr	Lys	Ser	Pro	Phe	Asn	His	Thr	Thr	Thr	Val	Asn	Thr	Ile	Asn
				605					610					615
Ser	Ile	His	Ser	Ser	Val	His	Glu	Pro	Leu	Leu	Ile	Arg	Met	Asn
				620					625					630
Ser	Lys	Asp	Asn	Val	Gln	Glu	Thr	Gln	Ile					
				635					640					

<210> 502  
 <211> 2458  
 <212> DNA  
 <213> Homo Sapien

<400> 502  
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 ccagctcgcc cgaggtccgt cggaggcgcc cggccgcccc ggagccaagc 150  
 agcaactgag cggggaagcg cccgcgtccg gggatcgga tgtccctcct 200  
 ccttctcctc ttgctagttt cctactatgt tggaaccttg gggactcaca 250  
 ctgagatcaa gagagtggca gaggaaaagg tcactttgcc ctgccaccat 300  
 caactggggc ttccagaaaa agacactctg gatattgaat ggctgctcac 350  
 cgataatgaa gggaacccaa aagtggatgat cacttactcc agtcgtcatg 400  
 tctacaataa cttgactgag gaacagaagg gccgagtggc ctttgcttcc 450  
 aatttctctg caggagatgc ctccttgag attgaacctc tgaagcccag 500  
 tgatgagggc cgttacacct gtaagggttaa gaattcaggg cgctacgtgt 550  
 ggagccatgt catcttaaaa gtcttagtga gaccatccaa gcccaagtgt 600

gagttggaag gagagctgac agaaggaagt gacctgactt tgcagtgtga 650  
 gtcacacctt ggcacagagc ccatttgtga ttactggcag cgaatccgag 700  
 agaaagaggg agaggatgaa cgtctgcctc ccaaacttag gattgactac 750  
 aaccaccctg gacgagttct gctgcagaat cttaccatgt cctactctgg 800  
 actgtaccag tgcacagcag gcaacgaagc tgggaaggaa agctgtgtgg 850  
 tgcgagtaac tgtacagtat gtacaaagca tcggcatggg tgcaggagca 900  
 gtgacaggca tagtggctgg agccctgctg attttcctct tgggtgtggct 950  
 gctaataccga aggaaagaca aagaaagata tgaggaagaa gagagacctt 1000  
 atgaaattcg agaagatgct gaagctccaa aagccctgtt tgtgaaacct 1050  
 agctcctctt cctcaggctc tcggagctca cgtctctggt cttcctccac 1100  
 tcgctccaca gcaaatagtg cctcacgcag ccagcggaca ctgtcaactg 1150  
 acgcagcacc ccagccaggg ctggccaccc aggcatacag cctagtgggg 1200  
 ccagagggtga gaggttctga accaaagaaa gtccaccatg ctaactctgac 1250  
 caaagcagaa accacacca gcatgatccc cagccagagc agagccttcc 1300  
 aaacggtctg aattacaatg gacttgactc ccacgcttcc ctaggagtca 1350  
 ggggtctttg actcttctcg tcattggagc tcaagtcacc agccacacaa 1400  
 ccagatgaga ggtcatctaa gtagcagtga gcattgcacg gaacagattc 1450  
 agatgagcat tttccttata caataccaaa caagcaaaag gatgtaagct 1500  
 gattcatctg taaaaaggca tcttattgtg ccttttagacc agagtaaggg 1550  
 aaagcaggag tccaaatcta tttgttgacc aggacctgtg gtgagaaggt 1600  
 tggggaaagg tgaggatgaat atacctaaaa cttttaatgt gggatatttt 1650  
 gtatcagtgc tttgattcac aattttcaag aggaaatggg atgctgtttg 1700  
 taaattttct atgcatttct gcaaacttat tggattatta gttattcaga 1750  
 cagtcaagca gaaccacag ccttattaca cctgtctaca ccatgtactg 1800  
 agctaaccac ttctaagaaa ctccaaaaaa ggaaacatgt gtcttctatt 1850  
 ctgacttaac ttcatttgtc ataaggtttg gatattaatt tcaaggggag 1900  
 ttgaaatagt gggagatgga gaagagtga tgagtttctc ccactctata 1950  
 ctaactctac tatttgtatt gagcccaaaa taactatgaa aggagacaaa 2000  
 aatttgtgac aaaggattgt gaagagcttt ccatcttcat gatgttatga 2050  
 ggattgttga caaacattag aaatatataa tggagcaatt gtggatttcc 2100  
 cctcaaatca gatgcctcta aggactttcc tgctagatat ttctggaagg 2150  
 agaaaataca acatgtcatt tatcaacgtc cttagaaaga attcttctag 2200



TC44TTT = EGTT5560

Gln Tyr Val Gln	Ser Ile Gly Met Val	Ala Gly Ala Val Thr Gly	230	235	240
Ile Val Ala Gly	Ala Leu Leu Ile Phe	Leu Leu Val Trp Leu Leu	245	250	255
Ile Arg Arg Lys	Asp Lys Glu Arg Tyr	Glu Glu Glu Glu Arg Pro	260	265	270
Asn Glu Ile Arg	Glu Asp Ala Glu Ala	Pro Lys Ala Arg Leu Val	275	280	285
Lys Pro Ser Ser	Ser Ser Ser Gly Ser	Arg Ser Ser Arg Ser Gly	290	295	300
Ser Ser Ser Thr	Arg Ser Thr Ala Asn	Ser Ala Ser Arg Ser Gln	305	310	315
Arg Thr Leu Ser	Thr Asp Ala Ala Pro	Gln Pro Gly Leu Ala Thr	320	325	330
Gln Ala Tyr Ser	Leu Val Gly Pro Glu	Val Arg Gly Ser Glu Pro	335	340	345
Lys Lys Val His	His Ala Asn Leu Thr	Lys Ala Glu Thr Thr Pro	350	355	360
Ser Met Ile Pro	Ser Gln Ser Arg Ala	Phe Gln Thr Val	365	370	

<210> 504  
<211> 3060  
<212> DNA  
<213> Homo Sapien

<400> 504  
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ctcctgtgcg gagtagtgga tttcgccaga agtttgagta tcaactactcc 150  
tgaagagatg attgaaaaag ccaaagggga aactgcctat ctgccatgca 200  
aatttacgct tagtcccga gaccaggac cgctggacat cgagtggctg 250  
atatcaccag ctgataatca gaaggtggat caagtgatta ttttatattc 300  
tggagacaaa atttatgatg actactatcc agatctgaaa ggccgagtac 350  
attttacgag taatgatctc aaatctggtg atgcatcaat aaatgtaacg 400  
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tcctggtggt gcaaataaga agattcatct ggtagttctt gttaagcctt 500  
caggtgagat atgttacgtt gatggatctg aagaaattgg aagtgacttt 550  
aagataaaat gtgaaccaa agaaggttca cttccattac agtatgagtg 600  
gcaaaaattg tctgactcac agaaaatgcc cacttcatgg ttagcagaaa 650  
tgacttcata tgttatatct gtaaaaaatg cctcttctga gtactctggg 700

acatacagct gtacagtcag aaacagagtg ggctctgac agtgccctgtt 750  
gcgtctaaac gttgtccctc cttcaaataa agctggacta attgcaggag 800  
ccattatagg aacttttgctt gctctagcgc tcattggtct tatcatcttt 850  
tgctgtcgta aaaagcgcag agaagaaaaa tatgaaaagg aagttcatca 900  
cgatatcagg gaagatgtgc cacctccaaa gagccgtacg tccactgcca 950  
gaagctacat cggcagtaat cattcatccc tgggggtccat gtctccttcc 1000  
aacatggaag gatattccaa gactcagtat aaccaagtac caagtgaaga 1050  
ctttgaacgc actcctcaga gtccgactct cccacctgct aagttcaagt 1100  
acccttaciaa gactgatgga attacagttg tataaatatg gactactgaa 1150  
gaatctgaag tattgtatta tttgacttta ttttaggcoo ctagtaaaga 1200  
cttaaatgtt ttttaaaaaa agcacaaggc acagagatta gagcagctgt 1250  
aagaacacat ctactttatg caatggcatt agacatgtaa gtcagatgtc 1300  
atgtcaaaat tagtacgagc caaattcttt gttaaaaaac cctatgtata 1350  
gtgacactga tagttaaag atgttttatt atattttcaa taactaccac 1400  
taacaaatth ttaacttttc atatgcatat tctgatatgt ggtcttttag 1450  
gaaaagtatg gttaatagtt gattttttcaa aggaaattht aaaattctta 1500  
cgttctgttt aatgtttttg ctatttagtt aaatacattg aagggaata 1550  
cccgttcttt tcccctttta tgcacacaac agaaacacgc gttgtcatgc 1600  
ctcaaactat tttttatttg caactacatg atttcacaca attctcttaa 1650  
acaacgacat aaaatagatt tccttgtata taaataactt acatacgctc 1700  
cataaagtaa attctcaaag gtgctagaac aaatcgtcca cttctacagt 1750  
gttctcgtat ccaacagagt tgatgcacaa tatataaata ctcaagtcca 1800  
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tatcaatatc taaagtgc atattttttta agaaagatta ttctcaataa 1900  
cttctataaa aataagtttg atggtttggc ccatctaact tcactactat 1950  
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tctcaacatg acaccaacac aatcaaaaac gaagttagtg aggtgctaac 2050  
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cctcgatata ttcttggtt ttttctgggc aaagggtgcc acattggaag 2250  
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ctaagccagg agtcacttgg aggcttttaa atacaaaaca ttggagctgg 2650  
aggccattat ccttagcaaa ctaatgcaga aacagaaaat caactaccgc 2700  
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gaaggaaaaca atagacattg gagtctattt gagaggggag ggtgggagaa 2800  
ggaaaaggag cagaaaagat aactattgag tactgccttc acacctgggt 2850  
gatgaaataa tatgtacaac aaatccctgt gacacatggt tacctatgga 2900  
acaaaccttc atgtgtatcc ctaaacctaa aataaaaagt aaaaaaaaaa 2950  
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3050  
aaaaaaaaaa 3060

<210> 505  
<211> 352  
<212> PRT  
<213> Homo Sapien

<400> 505  
Met Ala Leu Leu Cys Phe Val Leu Leu Cys Gly Val Val Asp  
1 5 10 15  
Phe Ala Arg Ser Leu Ser Ile Thr Thr Pro Glu Glu Met Ile Glu  
20 25 30  
Lys Ala Lys Gly Glu Thr Ala Tyr Leu Pro Cys Lys Phe Thr Leu  
35 40 45  
Ser Pro Glu Asp Gln Gly Pro Leu Asp Ile Glu Trp Leu Ile Ser  
50 55 60  
Pro Ala Asp Asn Gln Lys Val Asp Gln Val Ile Ile Leu Tyr Ser  
65 70 75  
Gly Asp Lys Ile Tyr Asp Asp Tyr Tyr Pro Asp Leu Lys Gly Arg  
80 85 90  
Val His Phe Thr Ser Asn Asp Leu Lys Ser Gly Asp Ala Ser Ile  
95 100 105  
Asn Val Thr Asn Leu Gln Leu Ser Asp Ile Gly Thr Tyr Gln Cys  
110 115 120  
Lys Val Lys Lys Ala Pro Gly Val Ala Asn Lys Lys Ile His Leu

	125		130		135
Val Val Leu Val	Lys 140	Pro Ser Gly Ala	Arg 145	Cys Tyr Val Asp	Gly 150
Ser Glu Glu Ile	Gly 155	Ser Asp Phe Lys	Ile 160	Lys Cys Glu Pro	Lys 165
Glu Gly Ser Leu	Pro 170	Leu Gln Tyr Glu	Trp 175	Gln Lys Leu Ser	Asp 180
Ser Gln Lys Met	Pro 185	Thr Ser Trp Leu	Ala 190	Glu Met Thr Ser	Ser 195
Val Ile Ser Val	Lys 200	Asn Ala Ser Ser	Glu 205	Tyr Ser Gly Thr	Tyr 210
Ser Cys Thr Val	Arg 215	Asn Arg Val Gly	Ser 220	Asp Gln Cys Leu	Leu 225
Arg Leu Asn Val	Val 230	Pro Pro Ser Asn	Lys 235	Ala Gly Leu Ile	Ala 240
Gly Ala Ile Ile	Gly 245	Thr Leu Leu Ala	Leu 250	Ala Leu Ile Gly	Leu 255
Ile Ile Phe Cys	Cys 260	Arg Lys Lys Arg	Arg 265	Glu Glu Lys Tyr	Glu 270
Lys Glu Val His	His 275	Asp Ile Arg Glu	Asp 280	Val Pro Pro Pro	Lys 285
Ser Arg Thr Ser	Thr 290	Ala Arg Ser Tyr	Ile 295	Gly Ser Asn His	Ser 300
Ser Leu Gly Ser	Met 305	Ser Pro Ser Asn	Met 310	Glu Gly Tyr Ser	Lys 315
Thr Gln Tyr Asn	Gln 320	Val Pro Ser Glu	Asp 325	Phe Glu Arg Thr	Pro 330
Gln Ser Pro Thr	Leu 335	Pro Pro Ala Lys	Phe 340	Lys Tyr Pro Tyr	Lys 345
Thr Asp Gly Ile	Thr 350	Val Val			

<210> 506  
 <211> 1705  
 <212> DNA  
 <213> Homo Sapien

<400> 506  
 tgaaatgact tccacggctg ggacgggaac cttccaccca cagctatgcc 50  
 tctgattggt gaatggtgaa ggtgcctgtc taacttttct gtaaaaagaa 100  
 ccagctgcct ccaggcagcc agccctcaag catcacttac aggaccagag 150  
 ggacaagaca tgactgtgat gaggagctgc ttctcgccaat ttaacaccaa 200  
 gaagaattga ggctgcttgg gaggaaggcc aggaggaaca cgagactgag 250

agatgaatth tcaacagagg ctgcaaagcc tgtggactth agccagaccc 300  
 ttctgcccctc ctttgctggc gacagcctct caaatgcaga tggttgtgct 350  
 cccttgccctg ggthtttacc tgccttctctg gagccaggta tcagggggccc 400  
 agggccaaga attccactth gggccctgcc aagtgaaggg ggttgthccc 450  
 cagaaactgt gggaagcctt ctgggctgtg aaagacacta tgcaagctca 500  
 ggataacatc acgagtggcc ggctgctgca gcaggaggth ctgcagaacg 550  
 tctcggatgc tgagagctgt taccttgthc acaccctgct ggagthctac 600  
 ttgaaaactg thttcaaaaa ccaccacaat agaacagthg aagtcaggac 650  
 tctgaagtca thctctactc tggccaacaa ctttgthctc atcgtgtcac 700  
 aactgcaacc cagtcaagaa aatgagatgt thtccatcag agacagtgca 750  
 cacaggcggg thctgctatt ccggagagca thcaaacagt tggacgtaga 800  
 agcagctctg accaaaagccc ttgggggaagt ggacattctt ctgacctgga 850  
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 gaaggtgcct ctggatgctg tgaagagtct acagagaaga thcttgtatt 1100  
 tattacaact ctattthtaatt aatgtcagta thtcaactga agthtctatt 1150  
 atttgtgaga ctgtaagtta catgaaggca gcagaatatt gtgccccatg 1200  
 thtctthtacc cctcacaatc cttgccacag tgtggggcag tggatgggtg 1250  
 cttagtaagt acttaataaa ctgtggtgct thttttggcc tgtctthtga 1300  
 thgttaaaaa acagagaggg atgcttggat gtaaaactga acttcagagc 1350  
 atgaaaatca cactgtcttc tgatatctgc agggacagag cattgggggtg 1400  
 ggggtaaggg gcatctgtth gaaaagtaaa cgataaaatg tggattaaag 1450  
 tgcccagcac aaagcagatc ctcaataaac atttcatttc ccaccacac 1500  
 tcgccagctc accccatcat cctthtccct tggtgccctc thttthttth 1550  
 tatcctagtc attctthcct aatctthcac ttgagtgtca agctgacct 1600  
 gctgatgggtg acattgcacc tggatgtact atccaatctg tgatgacatt 1650  
 ccctgctaath aaaagacaac ataactcaa aaaaaaaaaa aaaaaaaaaa 1700  
 aaaaa 1705

<210> 507  
 <211> 206  
 <212> PRT



<213> Homo Sapien

<400> 507

Met Asn Phe Gln Gln Arg Leu Gln Ser Leu Trp Thr Leu Ala Arg  
1 5 10 15  
Pro Phe Cys Pro Pro Leu Leu Ala Thr Ala Ser Gln Met Gln Met  
20 25 30  
Val Val Leu Pro Cys Leu Gly Phe Thr Leu Leu Leu Trp Ser Gln  
35 40 45  
Val Ser Gly Ala Gln Gly Gln Glu Phe His Phe Gly Pro Cys Gln  
50 55 60  
Val Lys Gly Val Val Pro Gln Lys Leu Trp Glu Ala Phe Trp Ala  
65 70 75  
Val Lys Asp Thr Met Gln Ala Gln Asp Asn Ile Thr Ser Ala Arg  
80 85 90  
Leu Leu Gln Gln Glu Val Leu Gln Asn Val Ser Asp Ala Glu Ser  
95 100 105  
Cys Tyr Leu Val His Thr Leu Leu Glu Phe Tyr Leu Lys Thr Val  
110 115 120  
Phe Lys Asn His His Asn Arg Thr Val Glu Val Arg Thr Leu Lys  
125 130 135  
Ser Phe Ser Thr Leu Ala Asn Asn Phe Val Leu Ile Val Ser Gln  
140 145 150  
Leu Gln Pro Ser Gln Glu Asn Glu Met Phe Ser Ile Arg Asp Ser  
155 160 165  
Ala His Arg Arg Phe Leu Leu Phe Arg Arg Ala Phe Lys Gln Leu  
170 175 180  
Asp Val Glu Ala Ala Leu Thr Lys Ala Leu Gly Glu Val Asp Ile  
185 190 195  
Leu Leu Thr Trp Met Gln Lys Phe Tyr Lys Leu  
200 205

<210> 508

<211> 924

<212> DNA

<213> Homo Sapien

<400> 508

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cggctctcagg agatgtctga tttccacaga catgcaccat atagaagaga 150  
gtttccaaga aatcaaaaaga gccatccaag ctaaggacac cttcccaa 200  
gtcactatcc tgtccacatt ggagactctg cagatcatta agcccttaga 250  
tgtgtgctgc gtgaccaaga acctcctggc gttctacgtg gacagggtgt 300

099163-1401

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 acagaggcag tgtcactgca ggcaggaagc caccaatgcc accagagtca 450  
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 ctgggagagc tcgacgtctt tctagcctgg attaataaga atcatgaagt 550  
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 caccacctgt gcggtttact gtgggagaca gcccaccttg aaggggaagg 650  
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 tgtcttattc cgcttgaaaa taggcaaaaa gtctactgtg gtatttgtaa 750  
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 tgccttccca tctaatttat tgtaaagtca tatagtccat gtctgtgatg 850  
 tgagccaagt gatatcctgt agtacacatt gtactgagtg gtttttctga 900  
 ataaattcca tattttacct atga 924

<210> 509  
 <211> 177  
 <212> PRT  
 <213> Homo Sapien

<400> 509  
 Met Lys Leu Gln Cys Val Ser Leu Trp Leu Leu Gly Thr Ile Leu  
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 Ile Leu Cys Ser Val Asp Asn His Gly Leu Arg Arg Cys Leu Ile  
 20 25 30  
 Ser Thr Asp Met His His Ile Glu Glu Ser Phe Gln Glu Ile Lys  
 35 40 45  
 Arg Ala Ile Gln Ala Lys Asp Thr Phe Pro Asn Val Thr Ile Leu  
 50 55 60  
 Ser Thr Leu Glu Thr Leu Gln Ile Ile Lys Pro Leu Asp Val Cys  
 65 70 75  
 Cys Val Thr Lys Asn Leu Leu Ala Phe Tyr Val Asp Arg Val Phe  
 80 85 90  
 Lys Asp His Gln Glu Pro Asn Pro Lys Ile Leu Arg Lys Ile Ser  
 95 100 105  
 Ser Ile Ala Asn Ser Phe Leu Tyr Met Gln Lys Thr Leu Arg Gln  
 110 115 120  
 Cys Gln Glu Gln Arg Gln Cys His Cys Arg Gln Glu Ala Thr Asn  
 125 130 135  
 Ala Thr Arg Val Ile His Asp Asn Tyr Asp Gln Leu Glu Val His  
 140 145 150  
 Ala Ala Ala Ile Lys Ser Leu Gly Glu Leu Asp Val Phe Leu Ala

155 160 165  
 Trp Ile Asn Lys Asn His Glu Val Met Phe Ser Ala  
 170 175

<210> 510  
 <211> 996  
 <212> DNA  
 <213> Homo Sapien

<400> 510  
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 tccacaggtg tccactocca ggtccaactg cacctcggtt ctatcgataa 200  
 tctcagcacc agccactcag agcagggcac gatgttgggg gcccgccctca 250  
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 agaatggcca tgtggatggc gcaccccatc agaccatcta cagtgccctg 450  
 atgatcagat cagaggatgc tggctttgtg gtgattacag gtgtgatgag 500  
 cagaagatac ctctgcatgg atttcagagg caacattttt ggatcacact 550  
 atttcgaccc ggagaactgc aggttccaac accagacgct ggaaaacggg 600  
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 tcctgtcccc gaggaacgag atccccctaa ttcacttcaa ccccccata 750  
 ccacggcggc acacccggag cgcgaggac gactcggagc gggaccccct 800  
 gaacgtgctg aagccccggg cccggatgac cccggccccg gcctcctgtt 850  
 cacaggagct cccgagcgcc gaggacaaca gcccgatggc cagtgacca 900  
 ttaggggttg tcaggggcgg tcgagtgaac acgcacgctg ggggaacggg 950  
 cccggaaggc tgccgcccct tcgccaagtt catctagggt cgctgg 996

<210> 511  
 <211> 251  
 <212> PRT  
 <213> Homo Sapien

<400> 511  
 Met Leu Gly Ala Arg Leu Arg Leu Trp Val Cys Ala Leu Cys Ser  
 1 5 10 15  
 Val Cys Ser Met Ser Val Leu Arg Ala Tyr Pro Asn Ala Ser Pro  
 20 25 30



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 acatctccca acttcatggt gctgatcgcc acctccgtgg agacatcagc 400  
 cgccagtggc agccccgagg gagctggaat gaccacagtt cagaccatca 450  
 caggcagtga tcccaggagaa gccatctttg acaccctttg caccgatgac 500  
 agctctgaag aggcaaagac actcacaatg gacatattga cattggctca 550  
 cacctccaca gaagctaagg gcctgtcctc agagagcagt gcctcttccg 600  
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 tcttccgacg gccccatcc agtcacacc ccgtcacggg cctcagagag 700  
 cagcgctct tccgacggcc cccatccagt catcaccccg tcatgggtccc 750  
 cgggatctga tgtcactctc ctgctgaag ccctgggtgac tgtcacaaac 800  
 atcgaggtta ttaattgcag catcacagaa atagaaaca caacttccag 850  
 catccctggg gcctcagaca tagatctcat cccacggaa ggggtgaagg 900  
 cctcgtccac ctccgatcca ccagctctgc ctgactccac tgaagcaaaa 950  
 ccacacatca ctgaggtcac agcctctgcc gagaccctgt ccacagccgg 1000  
 caccacagag tcagctgcac ctcatgccac ggttgggacc ccaactccca 1050  
 ctaacagcgc cacagaaaga gaagtgcag caccggggc cagaccctc 1100  
 agtggagctc tggtcacagt tagcaggaat cccctggaag aaacctcagc 1150  
 cctctctgtt gagacacaa gttacgtcaa agtctcagga gcagctccgg 1200  
 tctccataga ggctgggtca gcagtgggca aaacaacttc ctttgctggg 1250  
 agctctgctt cctcctacag cccctcgga gccgcctca agaacttcac 1300  
 cccttcagag acaccgacca tggacatcgc aaccaagggg cccttccca 1350  
 ccagcagga ccctcttct tctgtccctc cgactacaac caacagcagc 1400  
 cgagggacga acagcacctt agccaagatc acaacctcag cgaagaccac 1450  
 gatgaagccc caacagccac gccacgact gcccgacga ggccgaccac 1500  
 agacgtgagt gcaggtgaaa atggagggtt cctcctcctg oggctgagt 1550  
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 gactgcagct gcgttactgt gctgagaggt acccagaagg tttccatgaa 1800  
 gggcagcatg tccaagcccc taaccccaga tgtggcaaca ggaccctcgc 1850  
 tcacatccac cgagtgatg gtatggggag gggcttcacc tggtcccaga 1900

gggtgtccttg gactcacctt ggcacatggt ctgtgtttca gtaaagagag 1950  
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 gtggcccaaa aaaaa 2015

<210> 513  
 <211> 482  
 <212> PRT  
 <213> Homo Sapien

<400> 513  
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 Trp Glu Val Gly Val Ser Gly Ser Ser Ala Gly Pro Ser Thr Arg  
                   20                  25                  30  
 Arg Ala Asp Thr Ala Met Thr Thr Asp Asp Thr Glu Val Pro Ala  
                   35                  40                  45  
 Met Thr Leu Ala Pro Gly His Ala Ala Leu Glu Thr Gln Thr Leu  
                   50                  55                  60  
 Ser Ala Glu Thr Ser Ser Arg Ala Ser Thr Pro Ala Gly Pro Ile  
                   65                  70                  75  
 Pro Glu Ala Glu Thr Arg Gly Ala Lys Arg Ile Ser Pro Ala Arg  
                   80                  85                  90  
 Glu Thr Arg Ser Phe Thr Lys Thr Ser Pro Asn Phe Met Val Leu  
                   95                  100                 105  
 Ile Ala Thr Ser Val Glu Thr Ser Ala Ala Ser Gly Ser Pro Glu  
                  110                 115                 120  
 Gly Ala Gly Met Thr Thr Val Gln Thr Ile Thr Gly Ser Asp Pro  
                  125                 130                 135  
 Glu Glu Ala Ile Phe Asp Thr Leu Cys Thr Asp Asp Ser Ser Glu  
                  140                 145                 150  
 Glu Ala Lys Thr Leu Thr Met Asp Ile Leu Thr Leu Ala His Thr  
                  155                 160                 165  
 Ser Thr Glu Ala Lys Gly Leu Ser Ser Glu Ser Ser Ala Ser Ser  
                  170                 175                 180  
 Asp Gly Pro His Pro Val Ile Thr Pro Ser Arg Ala Ser Glu Ser  
                  185                 190                 195  
 Ser Ala Ser Ser Asp Gly Pro His Pro Val Ile Thr Pro Ser Arg  
                  200                 205                 210  
 Ala Ser Glu Ser Ser Ala Ser Ser Asp Gly Pro His Pro Val Ile  
                  215                 220                 225  
 Thr Pro Ser Trp Ser Pro Gly Ser Asp Val Thr Leu Leu Ala Glu  
                  230                 235                 240  
 Ala Leu Val Thr Val Thr Asn Ile Glu Val Ile Asn Cys Ser Ile  
                  245                 250                 255

Thr	Glu	Ile	Glu	Thr	Thr	Thr	Ser	Ser	Ile	Pro	Gly	Ala	Ser	Asp	
				260					265					270	
Ile	Asp	Leu	Ile	Pro	Thr	Glu	Gly	Val	Lys	Ala	Ser	Ser	Thr	Ser	
				275					280					285	
Asp	Pro	Pro	Ala	Leu	Pro	Asp	Ser	Thr	Glu	Ala	Lys	Pro	His	Ile	
				290					295					300	
Thr	Glu	Val	Thr	Ala	Ser	Ala	Glu	Thr	Leu	Ser	Thr	Ala	Gly	Thr	
				305					310					315	
Thr	Glu	Ser	Ala	Ala	Pro	His	Ala	Thr	Val	Gly	Thr	Pro	Leu	Pro	
				320					325					330	
Thr	Asn	Ser	Ala	Thr	Glu	Arg	Glu	Val	Thr	Ala	Pro	Gly	Ala	Thr	
				335					340					345	
Thr	Leu	Ser	Gly	Ala	Leu	Val	Thr	Val	Ser	Arg	Asn	Pro	Leu	Glu	
				350					355					360	
Glu	Thr	Ser	Ala	Leu	Ser	Val	Glu	Thr	Pro	Ser	Tyr	Val	Lys	Val	
				365					370					375	
Ser	Gly	Ala	Ala	Pro	Val	Ser	Ile	Glu	Ala	Gly	Ser	Ala	Val	Gly	
				380					385					390	
Lys	Thr	Thr	Ser	Phe	Ala	Gly	Ser	Ser	Ala	Ser	Ser	Tyr	Ser	Pro	
				395					400					405	
Ser	Glu	Ala	Ala	Leu	Lys	Asn	Phe	Thr	Pro	Ser	Glu	Thr	Pro	Thr	
				410					415					420	
Met	Asp	Ile	Ala	Thr	Lys	Gly	Pro	Phe	Pro	Thr	Ser	Arg	Asp	Pro	
				425					430					435	
Leu	Pro	Ser	Val	Pro	Pro	Thr	Thr	Thr	Asn	Ser	Ser	Arg	Gly	Thr	
				440					445					450	
Asn	Ser	Thr	Leu	Ala	Lys	Ile	Thr	Thr	Ser	Ala	Lys	Thr	Thr	Met	
				455					460					465	
Lys	Pro	Gln	Gln	Pro	Arg	Pro	Arg	Leu	Pro	Gly	Arg	Gly	Arg	Pro	
				470					475					480	

Gln Thr

<210> 514  
 <211> 2284  
 <212> DNA  
 <213> Homo Sapien

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 ggcgcgggg tcctctcgac gccagagaga aatctcatca tctgtgcagc 150  
 cttcttaaag caaactaaga ccagagggag gattatcctt gacctttgaa 200  
 gaccaaaact aaactgaaat ttaaaatggt cttcggggga gaaggagct 250

tgacttacac tttggtaata atttgcttcc tgacactaag gctgtctgct 300  
 agtcagaatt gcctcaaaaa gagtctagaa gatgttgtca ttgacatcca 350  
 gtcattctctt tctaaggga tccagaggcaa tgagcccgta tatacttcaa 400  
 ctcaagaaga ctgcattaat tcttgctgtt caacaaaaaa catatcaggg 450  
 gacaaagcat gtaacttgat gatcttcgac actcgaaaaa cagctagaca 500  
 acccaactgc tacctatttt tctgtcccaa cgaggaagcc tgtccattga 550  
 aaccagcaaa aggacttatg agttacagga taattacaga ttttccatct 600  
 ttgaccagaa atttgccaag ccaagagtta ccccgaggaag attctctctt 650  
 acatggccaa ttttcacaag cagtcaactcc cctagcccat catcacacag 700  
 attattcaaa gccaccgat atctcatgga gagacacact ttctcagaag 750  
 tttggatcct cagatcacct ggagaaacta ttttaagatgg atgaagcaag 800  
 tgcccagctc cttgcttata aggaaaaagg ccattctcag agttcacaat 850  
 tttcctctga tcaagaaata gctcatctgc tgccctgaaaa tgtgagtgcg 900  
 ctcccagcta cgggtggcagt tgcttctcca cataccacct cggctactcc 950  
 aaagcccgcc acccttctac ccaccaatgc ttcagtgaca ccttctggga 1000  
 cttcccagcc acagctggcc accacagctc cacctgtaac cactgtcact 1050  
 tctcagcctc ccacgaccct catttctaca gtttttacac gggctgcggc 1100  
 tacactccaa gcaatggcta caacagcagt tctgactacc acctttcagg 1150  
 cacctacgga ctcgaaaaggc agcttagaaa ccataccggt tacagaaatc 1200  
 tccaacttaa ctttgaacac agggaatgtg tataacccta ctgcactttc 1250  
 tatgtcaaat gtggagtctt ccactatgaa taaaactgct tccctgggaag 1300  
 gtagggaggc cagtccaggc agttcctccc agggcagtggt tccagaaaat 1350  
 cagtacggcc ttccatttga aaaatggctt cttatcgggt ccctgctctt 1400  
 tgggtgcctg ttcctgggtga taggcctcgt cctcctgggt agaatccttt 1450  
 cggaatcact ccgcaggaaa cgttactcaa gactggatta tttgatcaat 1500  
 gggatctatg tggacatcta aggatggaac tcgggtgtctc ttaattcatt 1550  
 tagtaaccag aagcccaaatt gcaatgagtt tctgctgact tgctagtctt 1600  
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 acacctgggt gatTTTTTgta ttttagtag agacgggggt tcaccatggt 1850



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 cccaaagtgc tgggattaca ggcattgagcc accacagctg gcccccttct 1950  
 gttttatgtt tgggttttga gaaggaatga agtgggaacc aaattaggta 2000  
 attttgggta atctgtctct aaaatattag ctaaaaacaa agctctatgt 2050  
 aaagtaataa agtataattg ccatataaat ttcaaaattc aactggcttt 2100  
 tatgcaaaga aacagggttag gacatctagg ttccaattca ttcacattct 2150  
 tggttccaga taaaatcaac tgtttatata aatttotaat ggatttgctt 2200  
 ttctttttat atggattcct ttaaaactta ttccagatgt agttccttcc 2250  
 aattaaatat ttgaataaat cttttgttac tcaa 2284

<210> 515

<211> 431

<212> PRT

<213> Homo Sapien

<400> 515

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Ile	Cys	Phe	Leu	Thr	Leu	Arg	Leu	Ser	Ala	Ser	Gln	Asn	Cys	Leu
				20					25					30
Lys	Lys	Ser	Leu	Glu	Asp	Val	Val	Ile	Asp	Ile	Gln	Ser	Ser	Leu
				35					40					45
Ser	Lys	Gly	Ile	Arg	Gly	Asn	Glu	Pro	Val	Tyr	Thr	Ser	Thr	Gln
				50					55					60
Glu	Asp	Cys	Ile	Asn	Ser	Cys	Cys	Ser	Thr	Lys	Asn	Ile	Ser	Gly
				65					70					75
Asp	Lys	Ala	Cys	Asn	Leu	Met	Ile	Phe	Asp	Thr	Arg	Lys	Thr	Ala
				80					85					90
Arg	Gln	Pro	Asn	Cys	Tyr	Leu	Phe	Phe	Cys	Pro	Asn	Glu	Glu	Ala
				95					100					105
Cys	Pro	Leu	Lys	Pro	Ala	Lys	Gly	Leu	Met	Ser	Tyr	Arg	Ile	Ile
				110					115					120
Thr	Asp	Phe	Pro	Ser	Leu	Thr	Arg	Asn	Leu	Pro	Ser	Gln	Glu	Leu
				125					130					135
Pro	Gln	Glu	Asp	Ser	Leu	Leu	His	Gly	Gln	Phe	Ser	Gln	Ala	Val
				140					145					150
Thr	Pro	Leu	Ala	His	His	His	Thr	Asp	Tyr	Ser	Lys	Pro	Thr	Asp
				155					160					165
Ile	Ser	Trp	Arg	Asp	Thr	Leu	Ser	Gln	Lys	Phe	Gly	Ser	Ser	Asp
				170					175					180
His	Leu	Glu	Lys	Leu	Phe	Lys	Met	Asp	Glu	Ala	Ser	Ala	Gln	Leu
				185					190					195

Leu	Ala	Tyr	Lys	Glu	Lys	Gly	His	Ser	Gln	Ser	Ser	Gln	Phe	Ser	
				200					205					210	
Ser	Asp	Gln	Glu	Ile	Ala	His	Leu	Leu	Pro	Glu	Asn	Val	Ser	Ala	
				215					220					225	
Leu	Pro	Ala	Thr	Val	Ala	Val	Ala	Ser	Pro	His	Thr	Thr	Ser	Ala	
				230					235					240	
Thr	Pro	Lys	Pro	Ala	Thr	Leu	Leu	Pro	Thr	Asn	Ala	Ser	Val	Thr	
				245					250					255	
Pro	Ser	Gly	Thr	Ser	Gln	Pro	Gln	Leu	Ala	Thr	Thr	Ala	Pro	Pro	
				260					265					270	
Val	Thr	Thr	Val	Thr	Ser	Gln	Pro	Pro	Thr	Thr	Leu	Ile	Ser	Thr	
				275					280					285	
Val	Phe	Thr	Arg	Ala	Ala	Ala	Thr	Leu	Gln	Ala	Met	Ala	Thr	Thr	
				290					295					300	
Ala	Val	Leu	Thr	Thr	Thr	Phe	Gln	Ala	Pro	Thr	Asp	Ser	Lys	Gly	
				305					310					315	
Ser	Leu	Glu	Thr	Ile	Pro	Phe	Thr	Glu	Ile	Ser	Asn	Leu	Thr	Leu	
				320					325					330	
Asn	Thr	Gly	Asn	Val	Tyr	Asn	Pro	Thr	Ala	Leu	Ser	Met	Ser	Asn	
				335					340					345	
Val	Glu	Ser	Ser	Thr	Met	Asn	Lys	Thr	Ala	Ser	Trp	Glu	Gly	Arg	
				350					355					360	
Glu	Ala	Ser	Pro	Gly	Ser	Ser	Ser	Gln	Gly	Ser	Val	Pro	Glu	Asn	
				365					370					375	
Gln	Tyr	Gly	Leu	Pro	Phe	Glu	Lys	Trp	Leu	Leu	Ile	Gly	Ser	Leu	
				380					385					390	
Leu	Phe	Gly	Val	Leu	Phe	Leu	Val	Ile	Gly	Leu	Val	Leu	Leu	Gly	
				395					400					405	
Arg	Ile	Leu	Ser	Glu	Ser	Leu	Arg	Arg	Lys	Arg	Tyr	Ser	Arg	Leu	
				410					415					420	
Asp	Tyr	Leu	Ile	Asn	Gly	Ile	Tyr	Val	Asp	Ile					
				425					430						

<210> 516  
 <211> 2749  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> unsure  
 <222> 1869, 1887  
 <223> unknown base

<400> 516  
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 ttgcctgctg ctcccaggtt atgaagccct ggagggccca gaggaaatca 100



gagtctgcat ttgggctgtg acgtctccac ctgcccacat agatctgctc 1750  
 tgtctgcgac accagatcca cgtggggact cccctgaggc ctgctaagtc 1800  
 caggccttgg tcaggtcagg tgcacattgc aggataagcc caggaccggc 1850  
 acagaagtgg ttgcctttnc catttgccct ccctggncca tgccttcttg 1900  
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 gggttacttg cctatgggtt ctgggtggcta gagagaaaag tagaaaacca 2000  
 gagtgcacgt aggtgtctaa cacagaggag agtaggaaca gggcggatac 2050  
 ctgaaggtga ctccgagtc agccccctgg agaaggggtc gggggtggtg 2100  
 gtaaagtagc acaactacta ttttttttct ttttccatta ttattgtttt 2150  
 ttaagacaga atctcgtgct gctgcccagg ctggagtgca gtggcacgat 2200  
 ctgcaaactc cgcctcctgg gttcaagtga ttcttctgcc tcagcctccc 2250  
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 agagttgttc agtatgcaaa acttggaag atggaggaga aaaagaaaag 2500  
 gaagaaaaaa atgtcaccca tagtctcacc agagactatc attatttcgt 2550  
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 tctttttaca gagcaattat cttgtatata caactttgta tctgcctttt 2650  
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<210> 517  
 <211> 332  
 <212> PRT  
 <213> Homo Sapien

<400> 517  
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 20 25 30  
 Asp Thr Val Ser Leu Gln Cys Thr Tyr Arg Glu Glu Leu Arg Asp  
 35 40 45  
 His Arg Lys Tyr Trp Cys Arg Lys Gly Gly Ile Leu Phe Ser Arg  
 50 55 60  
 Cys Ser Gly Thr Ile Tyr Ala Glu Glu Gly Gln Glu Thr Met  
 65 70 75

Lys	Gly	Arg	Val	Ser	Ile	Arg	Asp	Ser	Arg	Gln	Glu	Leu	Ser	Leu	
				80					85					90	
Ile	Val	Thr	Leu	Trp	Asn	Leu	Thr	Leu	Gln	Asp	Ala	Gly	Glu	Tyr	
				95					100					105	
Trp	Cys	Gly	Val	Glu	Lys	Arg	Gly	Pro	Asp	Glu	Ser	Leu	Leu	Ile	
				110					115					120	
Ser	Leu	Phe	Val	Phe	Pro	Gly	Pro	Cys	Cys	Pro	Pro	Ser	Pro	Ser	
				125					130					135	
Pro	Thr	Phe	Gln	Pro	Leu	Ala	Thr	Thr	Arg	Leu	Gln	Pro	Lys	Ala	
				140					145					150	
Lys	Ala	Gln	Gln	Thr	Gln	Pro	Pro	Gly	Leu	Thr	Ser	Pro	Gly	Leu	
				155					160					165	
Tyr	Pro	Ala	Ala	Thr	Thr	Ala	Lys	Gln	Gly	Lys	Thr	Gly	Ala	Glu	
				170					175					180	
Ala	Pro	Pro	Leu	Pro	Gly	Thr	Ser	Gln	Tyr	Gly	His	Glu	Arg	Thr	
				185					190					195	
Ser	Gln	Tyr	Thr	Gly	Thr	Ser	Pro	His	Pro	Ala	Thr	Ser	Pro	Pro	
				200					205					210	
Ala	Gly	Ser	Ser	Arg	Pro	Pro	Met	Gln	Leu	Asp	Ser	Thr	Ser	Ala	
				215					220					225	
Glu	Asp	Thr	Ser	Pro	Ala	Leu	Ser	Ser	Gly	Ser	Ser	Lys	Pro	Arg	
				230					235					240	
Val	Ser	Ile	Pro	Met	Val	Arg	Ile	Leu	Ala	Pro	Val	Leu	Val	Leu	
				245					250					255	
Leu	Ser	Leu	Leu	Ser	Ala	Ala	Gly	Leu	Ile	Ala	Phe	Cys	Ser	His	
				260					265					270	
Leu	Leu	Leu	Trp	Arg	Lys	Glu	Ala	Gln	Gln	Ala	Thr	Glu	Thr	Gln	
				275					280					285	
Arg	Asn	Glu	Lys	Phe	Trp	Leu	Ser	Arg	Leu	Thr	Ala	Glu	Glu	Lys	
				290					295					300	
Glu	Ala	Pro	Ser	Gln	Ala	Pro	Glu	Gly	Asp	Val	Ile	Ser	Met	Pro	
				305					310					315	
Pro	Leu	His	Thr	Ser	Glu	Glu	Glu	Leu	Gly	Phe	Ser	Lys	Phe	Val	
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Ser Ala

<210> 518

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 518

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<210> 519

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 519

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<210> 520

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 520

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<210> 521

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 521

ccagtgcaca gcaggcaacg aagc 24

<210> 522

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 522

actaggctgt atgcctgggt gggc 24

<210> 523

<211> 43

<212> DNA

<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

<400> 523

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<210> 524

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 524

aatctcagca ccagccactc agagca 26

<210> 525

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 525

gttaaagagg gtgcccttcc agcga 25

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<210> 528

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 528

aggaggatt atccttgacc tttgaagacc 30

<210> 529

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 529

gaagcaagtg cccagctc 18

<210> 530

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 530

cggtccctg ctctttgg 18

<210> 531

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 531

caccgtagct gggagcgac tcac 24

<210> 532

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 532

agtgtaatc aagctccc 18